DOCUMENT RESUME

ED 177 952 HE 011 784

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TITLE 12 Systems of Higher Education: 6 Decisive Issues.
INSTITUTION International Council for Educational Development, New York, N.Y.
SPONS AGENCY Krupp Foundation, Essen - Bredeney (West Germany).
PUB DATE 78
NOTE 210p.
AVAILABLE FROM Interbook Inc., 13 East 16th St., New York, NY 10003

EDRS PRICE MF01/PC09 Plus Postage.
DESCRIPTORS Administrative Organization; Administrative Principles; *College Administration; *College Planning; Comparative Analysis; *Comparative Education; Cross Cultural Studies; Educational Accountability; Educational Coordination; Educational Innovation; *Educational Objectives; Efficiency; Foreign Countries; *Higher Education; *Public Education
IDENTIFIERS Australia; Canada; France; Iran; Japan; Mexico; Poland; Sweden; Thailand; United Kingdom; United States; West Germany

ABSTRACT

The design, management, and effectiveness of systems of higher education are examined in 12 countries: Australia, Canada, the Federal Republic of Germany, France, Iran, Japan, Mexico, Poland, Sweden, Thailand, the United Kingdom, and the United States. Previous reports have been published by ICED on each country, upon which this report is based. It provides the essential links crossing national boundaries in a comparative treatment of the most important issues facing all the nations. Emphasis in this report is on evaluation of the weaknesses and strengths as determined by directors and researchers from the system. The results are compiled by the five authors, each handling a specific topic. Clark Kerr clarifies the goals and purposes of each system and their success ratio. John Millett analyzes the problem of planning and administering the systems of higher education. Burton Clark proposes new definitions for patterns of coordination. Brian MacArthur examines innovations and adjustment to the demands of mass education. Howard Bowen presents a plan for countries to follow in judging the efficiency of their system. An appendix: "Statement on Goals" is provided along with notes on contributors and a list of country directors. (LC)

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ISBN Number: 0-89192-212-1

Printed in the United States of America

Distributed by Interbook Inc., 13 East 16th Street, New York, N.Y. 10003 USA

FOREWORD

Three years ago the International Council for Educational Development began a study of the design, management, and effectiveness of systems of higher education in twelve countries: Australia, Canada, the Federal Republic of Germany, France, Iran, Japan, Mexico, Poland, Sweden, Thailand, the United Kingdom, and the United States. The countries were invited to participate on the basis of expressed interest from their leaders in higher education.

The authors were asked to provide a general description of each system, but the major emphasis was on evaluation of the weaknesses and strengths of the system of higher education in the particular country. These issues required the considered opinions—qualitative judgment—of the country directors and researchers. It is in this qualitative aspect that the study differs from the general quantitative comparisons usually used for international purposes. The frank analysis given by the authors concerning their own countries may well be the outstanding contribution of the study.

In recent months the twelve separate country reports have been published by ICED as a series. This present volume is based on those reports and provides the essential links crossing national boundaries in a comparative treatment of the most important issues confronting all the nations. The setting and structure may vary in each, but the problems emerge with common characteristics. At the same time, the solutions may diverge widely in the different countries.

Our authors here have been free to move beyond the scope of the country reports if they so desired. No restrictions were imposed on substance or style. Hence, although one meeting was held to carve out the individual topics from the whole coverage, there is some natural overlap in subjects so closely connected in higher edu-

cation. To have treated them as watertight compartments would have been to do violence to reality. These essays, therefore, are presented as distinct statements—not welded into a continuous dialogue.

Commentary and critique are more difficult than description and history. And the difficulty is compounded when one attempts a comparative statement. Each author—distinguished in leadership and in his contribution to higher education—has courageously undertaken the task. Clark Kerr clarifies such central intangibles as goals and purposes, and closes the book with comments on how effective higher education is in meeting those purposes. John Millett analyzes the interwoven problems of planning and administering systems of higher education; Burton Clark proposes new definitions for patterns of coordination; Brian MacArthur sees innovation on a broad scale including institutions' adjustment to the increased demands of mass education; and Howard Bowen presents a plan for countries to follow in judging the efficiency of their system of higher education.

The authors have looked beyond the edges of conventional wisdom into the challenging world where their own normative positions on values combine careful analysis with experience and infuse both with concern and understanding. The reader will see that our five essayists have helped to illuminate the paths of inquiry we must follow. We thank them for their participation and their significant contributions.

Our appreciation also goes to the Krupp Foundation for generous support to carry out this study on the effectiveness of systems of higher education. It was their recognition of the importance of systems emerging in the modern state that made this project possible.

June 1978

James A. Perkins
Nell P. Eurich

1 GOALS FOR HIGHER EDUCATION: ELUSIVE AND SOMETIMES TREACHEROUS

Clark Kerr

> It is deeply embarrassing to ask a woman about her age; a man about his wealth; a teenager about his or her pimples; an old person about his or her sex life; and a university about its goals.

Systems of higher education vary enormously in their attention to explicit goals. Yet there is a certain method to this apparent madness. Statements of goals are means, and, as means, they are of more use in some situations than in others.

We shall be dealing here with goals for systems as a whole or for major parts of a system. Sometimes these goals are officially stated and sometimes only unofficially recognized. We note that there are other goals than just those for systems—for example, those of individual participants within the system, or those of external persons relating to the system, or those of particular institutions within the system — and that all of these various goals may be more or less consistent or inconsistent with or even contradictory to the more official or semiofficial goals for the system itself.

Which Systems Have Goals?

It appears from a review of the reports of the twelve ICED studies and from other literature, that countries are more likely to have an official or semiofficial set of goals for higher education when:

- —the country has a planned economy and higher education is part of the plan (Poland);
- —the country operates on the basis of a consensus (a "rolling

consensus") among its political parties and its principal economic partners (Sweden);
- —the country is newly developing its system of higher education and wants a plan for its development (Iran);
- —the country is undertaking a major reorientation of its higher education system (Japan in 1947; U.K. at the time of the Robbins report in 1963; France in 1968).

There are less likely to be statements of goals when the country operates in a pluralistic fashion, and particularly when the system of higher education is well established and not undergoing any planned overall change. Federal systems of government (Australia, Canada, Germany, U.S.) are the least likely to have a set of national goals; so also, systems with a substantial private sector (Japan, U.S.). Likewise loosely organized societies (Mexico, Thailand), regardless of any other characteristic, are less likely to have specified and continuing national goals than more highly organized ones.

Goals may be a necessity. A statement of goals can serve affirmative purposes to guide the development of a planned economy, to draw together a consensus for action in a society with great self-discipline, to set priorities for the development of a new system, and to indicate general aims for a higher education system which is being pointed in new directions. In each of these situations, a statement of goals can be useful, but difficult to develop.

When stated goals are not necessary, they can be a menace. The effort to set forth goals can be highly divisive, as different individuals and groups seek to advance their points of view and to gain an advantage. The effort can also be unproductive, either because it results in listing meaningless generalities, or, if specific enough, tends to confirm and entrench the status quo. Moreover, there is a better way to reaffirm goals and to change them—and that is through the budget process or by specific, item-by-item policy actions. The budget process allows for almost infinitely small increments or decrements of support thus avoiding all-or-none confrontations: money is not a principle and so it can be compromised without anyone losing face by abandoning principle; and commitments are short term, not forever. This is the standard incrementalist approach of a slowly but constantly changing pluralistic society, in contrast to the more comprehensive approach of a more centralized or rapidly changing society.

There is also a matter of taste, and taste is not so easily subjected to debate or analysis. Those who are more idealistically, more ideologi-

cally, more moralistically, or more intellectually oriented seem to prefer having goals out in front to be set and followed. Those who are more practically, pragmatically, realistically, or affectively oriented seem to prefer goals that are more implicit than stated, more flexible than rigid, more multiple than singular. There is a great difference between those who start from a clear central principle and then move to its application in reality — "mind over matter" — and those who start with action and only dimly infer from their actions what their principles really are. Some are adept at both ways, as is sometimes said of the French—good principles *and* flexible practical actions which may or may not relate to each other, but each of the two approaches, on different occasions, can be skillfully utilized. The communist countries of today and the Catholic and Protestant worlds of the past fall more in the first category as to taste; the Anglo-American tradition falls more in the second.

Goals are also a matter of tactics. Conservatives are likely to insist upon goals to support the status quo, radicals in order to attack the status quo, reformers in order to change the status quo (as in the Canadian province of Alberta). Moderates and liberals and those generally in positions of active political leadership are more likely to be wary at least of specific goals as causing unnecessary controversy and reducing freedom of action. The former (conservatives, radicals, reformers) are likely to look upon goals as a way of mobilizing and directing efforts; the latter (moderates, liberals, administrators) as a source of divisiveness and rigidity. Those closer to the two ends of the political spectrum or out of power, are more likely to think in terms of goals than those closer to the middle or in power.

Thus, whether as a result of historical factors, or intellectual taste, or choice of tactics, countries and elements within them are quite divided in the extent to which they set forth explicitly and comprehensively their goals for higher education. For example, Poland, with its planned economy, has an official policy for higher education. Sweden first began developing a set of goals for higher education in the 1950s; these were made more explicit in the U68 as the country sought a consensus for change. Nigeria developed a new plan for the development of higher education including a set of goals, particularly through the Ashby report of 1960.

Napoleon had as the goal of his reforms the training of civil and military leaders; Humboldt advocated the advancement of "learning" as the great goal for the reform of the German university system.

Cornell, the first great land-grant university in the United States, had as its goal the creation of a place "where any person can find instruction in any subject" — each of these goals pointed to new directions.

Canada, with a decentralized federal system, has never had an official statement of the goals for higher education. The United Kingdom, with its pragmatic approach to governance, never had a list of goals, even a semiofficial one, until the Robbins report. The United States and Japan, with large private sectors, have never had a statement of goals for these sectors.

Newman and Hutchins and Mao have been more interested in setting forth eternal goals for higher education than Ashby or Conant or Churchill. (See Appendix for selected statements on goals.)

What Goals do Systems Have?

We now turn to the goals of systems, whether explicit or implicit — which, in the latter case, involves assigning goals to systems when they have never acknowledged them.[1] We begin with three observations. First, most, perhaps all, systems experience an accretion of goals over time. The initial goal for most systems was to prepare students for the professions: at Bologna — lawyers, accountants, managers for commercial firms; at Paris, Oxford, and Cambridge — priests and teachers; at Harvard — "ministers and leaders of state and society;" at Tokyo — high-level civil servants. But, in each instance, other goals were added.

Second, there are major constellations of goals which seem to form a pattern: for the LDCs — the development of skilled manpower; for the communist nations — provision of skilled manpower, assurance of egalitarian access, and advancement of "political and civic education;" for the more developed noncommunist nations with a narrow range of goals — skilled manpower, transmission of culture, and opportunity for individual development (France before 1968 is an example); for the more developed noncommunist nations with a wide range of goals — egalitarian access, research and, perhaps also, public service may be added (United States since the land-grant movement is an illustration).

Finally, goals, while carrying the same designation, are often defined differently from nation to nation and from time to time within nations.

Trained Manpower

Manpower is a new word in the language. It does not even show up in the *Oxford English Dictionary*. It seems to have been first used in connection with military service during World War I. Yet the idea of using universities or academies to develop trained personnel goes back in the classical tradition to the Sophists (teachers, architects, etc.), in the European tradition at least to Salerno (medicine), in the Chinese tradition to Confucius (civil servants), and in the Islamic tradition to translators, astronomers, and mathematicians. The individual universities of Europe were founded on two models — one was the guild, the other the church — both interested in training for the professions of the day.

The general progression of training in the West since the Middle Ages has been as follows: for the classic professions (law, medicine, clergy, teaching); for the state and the military (civil servants and officers); for the economy (the many new professions); and for an advanced economy where certain basic learning skills are needed by all workers (basic skills to be provided within postsecondary education when not obtained at earlier levels of education), and where special technological and managerial training is needed by many persons.

Classical professional training mainly served the old aristocracy; the preparation of civil servants and military officers supported the newly arising nation states. Later, new professions were added to meet the technical demands growing out of the industrial revolution.[2] Now there is a need to absorb all persons to the maximum extent into "productive labor" and since "unskilled labor" jobs have largely disappeared, this may require teaching remedial skills even at the postsecondary level. Thus the expansion of the definition of this assignment to higher education has reflected less its own internal evolution and more the transformation of the surrounding society.

The planned economies place more stress on matching training with the needs for specific manpower skills; and the less planned economies emphasize more general training for several possible employments. The LDCs generally first emphasized the classic professions (particularly law), then civil servants, and only later the technological professions.

No system of higher education has ever been without this goal in fact if not in theory. It must be considered the most basic and universal of all. It is also the goal which has evolved most uniformly

among nations in relation to their stages of economic development and their related techniques and technologies.

Transmission of a Common Culture

Here again, all systems seek to transmit a cultural emphasis, but this emphasis varies greatly according to content and intensity. Some of the elements of culture to be transmitted may be identified as follows:

A religious culture. The Pope once established new universities primarily to combat heresy. Many American private colleges were formed for the purpose of perpetuating one or another religion, and many so continue. The University of Sydney was established to advance "religion and morality"—in a nation, however, more noted for attendance at sporting events than at church. This emphasis on religion has been declining in importance in modern times.

A democratic culture. Thomas Jefferson believed that students should be taught the "principles of government" on which the "United States were genuinely based." Many state universities to this day require instruction in American government and institutions. The U68 in Sweden proclaims a goal of teaching for "democracy."

A socialist culture. Marxists believe that the creation of "socialist man" is one of their greatest purposes; and that universities must be concerned with "political and civic education."

An attachment to the historical culture. This is a strong emphasis in France, which has a most highly developed culture, but also in Japan, and to a lesser extent in Thailand.

A moral and ethical culture. The Robbins report in the United Kingdom put an emphasis upon "the common standards of citizenship" and higher education in Japan in 1947 had as one purpose the development of "intellectual and moral character."

Nationalism. This was, before World War II, a very strong emphasis in Japan and Germany.

Internationalism. This is a new official purpose in Sweden and of some concern, at least, in Canada.

A culture of change. In Sweden, there is a clear concern to prepare students to assist in and adjust to social change.

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A scientific and intellectual culture. The Robbins report referred to the need to "promote the general powers of the mind." Also a great concern of Cardinal Newman, this is an implicit goal in many nations, particularly within the academic community itself in nations such as Poland and Germany and more generally within the Anglo-American and Protestant traditions.

Several of these, especially the first four, place an emphasis upon the classic texts of the cultural tradition. At least two of these approaches—religious culture and nationalism—are often an embarrassment to the academic profession when pushed to an extreme; the other approaches vary in their compatibility with the inclinations of the members of the academic profession. All but the last may be incompatible if pushed too intensively and too rigidly.

National culture is clearly an area where the policy of the society may not be in accordance with the goals of faculty members and students. Many of the battles, great and small, between societies and their institutions of higher education have been over the "transmission of a common culture." The approach taken also divides nations and reflects their differing internal characters and historical traditions.

The goal of training manpower parallels in its variations the more or less common flow of historical stages of development. The transmission of the common culture, by contrast, reflects the different points of origin and the different routes taken by different societies. Manpower development is a uniting theme; cultural transmission a divisive one in the world of higher education.

Individual Development

The development of the individual students is a byproduct of any system of higher education, regardless of the goals. Even a system that concentrates on manpower training adds to the individual development of students. Some systems, however, have individual development as a theme in its own right. They are more likely to be in capitalist than in socialist countries. Marxist theory emphasizes that the individual fulfills himself only as he serves the community. The goal of individual development also seems to be a theme more of systems which were started early in history than of those begun in later times when technical training came to be more important and "leadership" preparation less important. Individual develop-

ment is also emphasized more in those countries which had "upper classes" which institutions of higher education primarily served. The theme is more the "whole man" than the "whole society."

Individual development, in the British tradition, has had a series of themes[3]—training in taste and manners, in character and leadership, in critical intelligence, in universal knowledge and universal truth, in humanism, and in moral philosophy, among others. The American, Canadian, and Australian traditions have to varying degrees and in varying places followed the British.

The methods used to encourage individual development range from heavy emphasis on residential living, as in the colleges of Oxford and Cambridge, to a heavy component of "general education" in the curriculum, to strong emphasis on counseling and guidance, to a rich cultural, ethical, and athletic environment, to active and comprehensive student organizations, such as the "nations" in Swedish universities. This has been a stronger theme in Anglo-American-type nations and Sweden than in France, where students traditionally have been put much more on their own, or in Mexico or Iran; and it varies from one institution to another—more attention at Chulalongkorn in Thailand, for example, than at a polytechnic in England.

Overall, this approach has an element of class origins in it and is of generally decreasing importance, in any event, in an age of mass enrollments in technical programs. The Battle of Waterloo may have been "won on the playing fields of Eton" but modern wars and peace-time economic contests are not; they are more likely to be won in the classrooms of the polytechnics.

Research and Scholarship

Some scholarly activities have been a part of institutions of higher education at almost all times and places. Such scholarship as there was at the time was concentrated in the Cathedral schools that preceded the founding of the medieval universities. But research, particularly scientific research, became a major theme only with the rise of the Humboldt-type university in Germany and its predecessors over the prior century; although Uppsala was a great center for science (Linnaeus and Celsius) before Humboldt, and there was Newton at Cambridge. However, it was the German-type university that became the model for much of the world.

Basic research is more likely to be a preoccupation of universities in highly developed and wealthy economies than in the LDCs. Within the developed economies, however, there are variations. Some countries follow the German model; others the French, where research is concentrated in the Academy and its instrumentalities rather than in the universities. France has become the model for the socialist world, via Russia and Peter the Great, although there is now some tendency to place more research in the university setting. Japan is a special case. Basic research there is largely imported or undertaken within industrial or governmental laboratories.

Applied research within the universities has been particularly developed within American universities, starting first with the application of science to agriculture.

Public Service

Most activities of institutions of higher education are "services," even public services. The concept of public service, however, got its start with the land-grant movement in the United States. Public service takes four major forms:

- criticism and advice by members of the academic community on technical problems and social issues in the external community;
- provision of cultural, and athletic events, open to the general public;
- offering of noncredit courses to the general public; and
- preservation of cultural heritages for their own sake, and for public consumption (a museum function), in addition to or aside from scholarly study.

Higher education has frequently performed the first of these services regardless of whether the external community desired it or not. Abelard, one of the progenitors of the University of Paris, was charged with heresy for his critical views. Still, this type of public service is the most widespread of all, but muted on the social issue side in socialist and authoritarian nations. Programs of public events and noncredit courses are particularly typical of the United States and Canada. Such diverse nations as Poland and Thailand stress attention to cultural heritages.

10
Egalitarian Access

Access, traditionally, has been for a small elite group of students defined by class origin, by wealth of their parents, by the professions of their fathers, as well as (or sometimes instead of) their talents. In more modern times, the emphasis has been more and more upon academic merit regardless of the student's socioeconomic class. The land-grant movement helped to pioneer this emphasis. Still more recently there has come to be a concern for compensatory advantages in access, particularly within socialist and social-democratic nations—giving certain preferences to children of workers and peasants (Poland) or of low-income or minority families, or to persons of more advanced age and with work experience (Sweden). More attention is also being paid to access in neglected geographical areas (as in Thailand in areas outside of Bangkok).

Concluding Note

Systems of higher education may be differentiated in many ways: including by the goals they follow, either explicitly or implicitly; by how they define these goals; and by what weight they give to them.

The goals they choose or that are thrust upon them reflect: the stages of economic development, as in the different types of trained manpower they produce; the central social orientation of each nation and its specific history, as in the different cultural emphases it seeks to transmit, the comparative attention to social and to individual needs, the kinds of public services provided, and the attention it gives to egalitarian access; and the status of the nation among nations, as in its contributions to basic research.

Looking at goals, it appears that systems of higher education might be grouped as follows: less developed economically; communist; capitalist and social democratic—with narrow assignment of goals; and capitalist and social democratic—with broad assignment of goals. The similarities of goals within each type are greater than between types. Individual systems can roughly be assigned within these categories, with some in transition from one category to another. These categories help to make the point that systems of higher education cannot be understood without reference to the nature of the larger society of which they are a part. Higher education more follows than leads society.

FOOTNOTES

1. The list that follows does not include some items, occasionally listed as system goals, which seem to relate more to process or to means than to end goals: "autonomy," "recurrent education," "student participation in governance," and "multidisciplinarity."
2. Enrollment in "higher schools" and the mining-manufacturing index developed in almost identical fashion in Japan from 1875 to 1960. See: OECD, *Recurrent Education—Japan* (Paris. 1976), Figure 3.
3. See Sheldon Rothblatt, *Tradition and Change in English Liberal Education* (London: Faber and Faber, 1976). For a recent American definition, see Carnegie Commission on Higher Education, *The Purposes and Performance of Higher Education in the United States* (New York: McGraw-Hill, 1973).

2 PLANNING AND MANAGEMENT IN NATIONAL STRUCTURES

John Millett

Introduction

The twelve country studies that provided the basis for cross-country comparison and analysis in this commentary focused primarily upon the role of governments in planning and managing systems or structures of higher education. This focus reflects the importance of higher education to the realization of governmental goals. It reflects also the expanding role of governments in providing the financial support needed by institutions of higher education in performing their services. It is a truism in the study of governments, well borne out by these studies, that as the financial role of government expands in any particular area of social activity, governmental planning and management also expand.

While governments may be analyzed in terms of certain common attributes—in terms of political tradition, social structure, institutional arrangements for the exercise of power, and patterns of political behavior—it is also evident that governments can and do vary substantially one from another in these same attributes. There have been three governmental variables of obvious importance in these twelve studies of current national experience in higher education. One variable has been the social structure as reflected in the organization of political power. The second has been the organizational arrangement for the exercise of governmental power. The third variable has been the current state of economic development in the country with its attendant influence upon current political behavior.

In terms of sociopolitical structure, the twelve countries may be divided into two broad categories: monolithic and pluralistic. A

monolithic power structure is essentially that of a single-party state, with government power predominant or absolute in economic and social matters, and with an authoritarian expectation about the political behavior of individuals. A pluralistic power structure is essentially that of a multiparty state, with governmental power influential but not controlling in economic and social matters, and with an expectation of considerable diversity in the political behavior of individuals. Emphasizing that the degree of correlation varies, we may say that four of the nations have characteristics of the monolithic state: Thailand, Poland, Iran, and Mexico. The other eight nations have characteristics of the pluralistic state: Sweden, the United States, Canada, Australia, the United Kingdom, France, the Federal Republic of Germany, and Japan.

In terms of the organization of governmental power, the twelve countries may again be classified in two general categories: unitary and federal. A unitary organization is one in which the central government exercises complete authority over the entire nation and in which local jurisdictions are dependent upon central direction and supervision. A federal governmental organization is one in which the central government exercises only limited authority over the nation and in which local jurisdictions exercise substantial authority in governmental action. Again, acknowledging variations in the actual operation of unitary and federal governments, we may say that seven of the nations have a unitary organizational structure and five a federal structure. Those with a unitary structure are Sweden, Poland, France, Thailand, the United Kingdom, Japan, and Iran. The nations with a federal structure are the United States, Canada, Australia, Mexico, and the Federal Republic of Germany.

In terms of the current state of economic development, we may employ yet another two-fold classification: developed economies and developing economies. Of the twelve nations, eight fall in the category of developed economies: Sweden, the United States, Canada, the United Kingdom, Australia, Japan, France, and the Federal Republic of Germany. Only four nations fall in the category of developing economies: Poland, Iran, Mexico, and Thailand.

These three sociopolitical, governmental, and economic characteristics explain many of the differences observed in the planning

and management of higher education systems. The more pluralistic the sociopolitical structure, the greater the diversity in the organization and operation of institutions of higher education. The more monolithic the socioeconomic structure, the more positive and determined are the thrusts toward governmental planning and management. The more evident the unitary organizational arrangement of the nation, the more highly centralized are the planning practices and the fewer the evidences of institutional autonomy. The more federally organized the nation, the more planning practices are decentralized and the greater are the differences in the types of higher education planning and management practiced. The more developed the economy of a nation, the more there is an inclination to broaden the scope of national goals to be realized through higher education and, ironically, the greater disposition to ask whether or not higher education is worth its cost in relation to other governmental objectives and programs. The less developed the economy of a nation, the greater is the inclination to set a single goal to be realized through higher education and to devote relatively substantial economic resources to the accomplishment of this objective.

Anyone who undertakes a transnational comparison and analysis of higher education must at all times be mindful of the sociopolitical structure, the government organization, and the state of economic development in each nation. Many of the differences in higher education must be understood in terms of the particular social, governmental, and economic environment of each nation. Without endeavoring specifically to elaborate upon the interrelationship of national environment to higher education, we should, nonetheless, bear this interrelationship constantly in mind as this discussion proceeds.

In each of the twelve countries there was a certain tension between universities and governments. Indeed, if this tension is absent, one might well ask whether the university is fulfilling its purpose. Generally, the universities were suspicious of governments; they wanted economic resources with no strings attached. Governments were suspicious of universities; they perceived them as presenting never-ending demands for resources but resisting desired responses to national goals.

The pluralistic society might ask—indeed almost all in the study did ask—for support of the democratization of higher education.

To the universities this meant supporting intellectual mediocrity, misuse of limited resources, and invasion of university autonomy. The monolithic society might ask universities to accept an existing structure of authority and commitment to the realization of the national goals sought by that authority. To universities such acceptance and commitment often meant the loss of intellectual freedom, the end of self-determined intellectual exploration, and an invasion of university autonomy.

In all nations, universities have been supplemented by other institutions of higher education. The reason has been more than a concern to obtain the specific resources of educated talent needed by a nation. It has been also a concern to have alternative instruments of higher education other than the university, with the hope that these alternative institutions would be more supportive of existing national goals. Yet nations have feared to eliminate the university. The university is a symbol of intellectual strength, and nations desiring political and economic freedom have not known how to achieve these goals without intellectual strength as well.

Government as Planner

In the twelve countries of the ICED study, governments were heavily involved in planning higher education. The motivation was primarily financial: the expectation or even demand of universities and other sectors of higher education for increased financial support from the government. In a monolithic socioeconomic structure the financial support of universities was necessarily a governmental matter; economic planning had to include an allocation of resources for the education of specialized talent in order to achieve the objectives of economic planning. In a pluralistic socioeconomic structure, public universities also looked to governments for increased financial support and private institutions joined the request as philanthropy and charges to students were inadequate to meet financial needs.

As universities and other sectors of higher education increased their financial demands upon government, governments tended to respond by insisting upon more extensive and comprehensive planning. What was the prospective demand for educated talent that universities and colleges were expected to supply? What were

the reasonable expectations of the nation to be achieved through the support of academic research? What and how much public service was higher education expected to provide? What cultural purposes are to be served by higher education? How many students should be admitted to higher education institutions, and in what programs? Where should new universities and colleges be located? How should the personal costs to students be financed? What should be the quality standards expected of higher education institutions? How much should the facilities and the programs of higher education cost? These questions could not be left to universities and colleges to resolve by themselves. Confronted with ever increasing demands for more government funds, governments began to devise answers to these questions. And governmental answers meant governmental planning.

Because of the universities' tradition of autonomy, governments found that they had to plan for higher education with some care; otherwise they might plan the destruction of the very contributions they wanted from higher education. Universities saw this reluctance as their one hope for maintaining intellectual autonomy.

In all nations the environment of governmental planning was different in the latter part of the 1970s from what it had been during the sixties. Enrollments were tending to exceed the labor market demand for educated manpower, especially in developed economies. In some countries enrollment growth had come to an end, and the number of students was expected to decline; but the costs of higher education were continuing to increase. Governments were asking why costs should not decline along with enrollments. In the United States, at least, confidence in higher education as a contributor to economic growth and to social stability appeared to be waning.

Thus, a new source of tension was appearing in the relationship between higher education and governments as a result of their differing views of the future. Universities were inclined to believe that their economic and cultural outputs were just as valuable as they had ever been, and that governments should continue to provide financial resources on an expanding scale. Governments were inclined to believe that the economic and cultural outputs of universities were not so valuable as they had been in the 1960s, and that the financial resources provided higher education should reflect this. Here was the new planning issue to be resolved in the 1980s.

Objectives

In every country the goals of higher education were of two kinds: economic and cultural. The economic goals included educating manpower to meet the needs for professionals, managers, and technicians, as well as for research and the application of knowledge and skill to the solution of particular problems. The cultural goals included preserving and transmitting an intellectual and civic heritage, cultivating an appreciation for the arts, encouraging athletic recreation, and stimulating the intellectual quest for individual satisfaction.

In developing economies the goals of higher education were especially oriented toward economic purposes, particularly toward supplying educated manpower for the labor market. In developed economies the supply of educated manpower was a major concern in the 1950s and 1960s but was declining in importance in the late 1970s. In almost all developed economies the supply of educated manpower had begun to exceed demand by the mid-1970s. In fact, the surplus was beginning to appear as an embarrassment to governmental planners, since it might eventually threaten the economic and political stability of the nation. In all developed economies the problem of appropriate manpower planning in relation to higher education enrollments had become a major concern, but none of the pluralistic societies had found an answer to the dilemma.

In pluralistic societies there emerged a special kind of governmental concern, and to a lesser extent the same concern was evident in some developing economies with monolithic sociopolitical structures. This was a concern for enhancing social mobility. In most governments, whatever their characteristics, both economic growth and fairly widespread distribution of material benefits were government objectives. Improved economic well-being for various individuals tended to be sought through education, especially higher education. Governments found it necessary to seek economic advancement in order to distribute greater material well-being among all citizens rather than attempting to redistribute a static output. Since higher education was supposed to provide the manpower needed in an expanding economy and since expanding the economy was a national objective, higher education had to be encouraged.

In this concern for economic growth, governments were necessarily concerned with access to higher education. If only the sons and daughters of the affluent had access to higher education, existing patterns of socioeconomic status would be preserved and young people from less affluent families would have little opportunity to advance. In order to avoid this, government planners sought to broaden access to higher education. The goal became the so-called "democratization" of higher education.

National goals relate to general economic and cultural goals. To the extent that governments were willing to define goals and means to those goals with some precision, planning took on some degree of precision as well. When governments were uncertain about national purposes and means to those goals, governmental and other planning was apt to be confused and ineffective. Hanging over all considerations of goals and planning for higher education was a central question: What was a society and a government ready and willing to pay for higher education?

Planning: The Developmental Context

Five countries of this study—Japan, Iran, Thailand, Mexico, and Poland—can be viewed as outside the Western European experience and tradition. One might argue about including Poland and Mexico in this category, but the similarity of a part of their national experience to that of the other three nations seemed to justify their inclusion here. All of these nations have been involved in a substantial effort to develop economically. All perceived the university as an indispensable instrument for perpetuating the national state and advancing the economy. In all five nations, governmental planning for higher education was oriented toward meeting manpower requirements.

Japan, Iran, and Thailand each imported the Western-type university for clearly understood ends: to advance commercial and industrial development; to promote the material well-being of the nation; and to acquire economic power in order to reinforce military security and national political independence.

Japan

The Japanese Diet enacted a new statute in 1918 to meet the educational needs of the nation as they were perceived at the end

of World War I. Secondary education was remodeled and strengthened in order to meet part of the need for an educated work force and citizenry and to lessen the pressure for access to higher education. At the same time the creation of private universities and professional schools was permitted.

In 1947 the Japanese educational system entered a period of restructuring in the aftermath of military defeat and occupation. Apart from a new attention to academic freedom and education for "democracy," private institutions were expanded, professional schools, colleges, and universities were consolidated, junior colleges were created, and there was an effort to ensure more equal geographic distribution of institutions. Rapid industrial expansion in the late 1950s and throughout the 1960s and early 1970s led to special emphasis upon the education of technicians, engineers, and scientists. The national goals in higher education could only be achieved by continuous national planning.

By the mid-1970s Japan had developed both a four-tiered higher education system and a four-unit structure of higher education institutions. The four tiers of instruction were: technical education, general education, specialized professional education, and graduate education. The four units of the higher education structure were: advanced higher technical schools and advanced specialized vocational schools; junior colleges (for general education); specialized professional schools; and comprehensive universities. This system represented an adaptation of the United States model. It incorporated some overlapping of missions and organization, but in general it appeared to meet current needs.

As of the 1970s, several kinds of reform were being advocated for Japanese higher education: improvement of graduate education, greater diversity of programs, better preparation of college and university faculty, and relocation of universities from the center of cities to the suburbs. Other issues concerned future expansion of higher education and optimal distribution of students between national, municipal, and private universities.

In Japan higher education was a planned structure and process, planned in large part by the central government. The relationship between government and private higher education was much like the relationship between government and private business, one of sympathetic understanding and close cooperation. In a society

such as that of Japan, government initiatives were important in bringing about social action.

Iran

All higher education in Iran, like the economy and the social structure, has been government-inspired. A Ministry of Science and Higher Education was set up in 1967 to provide leadership and planning for the universities. The authority of the ministry, however, was quite limited and its performance was not notable. In 1977, no one was appointed to serve as head of the ministry; the Ministry of Education continued to function, however.

Higher education in Iran has grown in response to specific needs for educated manpower, and from enrollment pressures arising from increased affluence throughout the country, especially in the capital, Tehran. Higher education has not been so much planned as it has been encouraged by economic events. The University of Tehran with nearly 20,000 students, more than twice as large as any other university, has admitted only about 10 percent of the students who apply for enrollment.

Increasingly, the thrust of Iranian universities has been toward professional education largely adapted from the United States. Many Iranian educational administrators have acquired their concept of purpose and theory of knowledge from their experience in the United States. Initially, higher education in Iran provided educated manpower for the governmental bureaucracy. Subsequently, the needs of government corporations and private businesses have made additional demands upon the pool of educated talent.

Iranian universities and colleges are shifting from elite to mass higher education, but the government and economy still suffer from a lack of skilled and technically trained manpower. Too many students have been educated for managerial positions when the economy has had clearly evident shortages of competent technical personnel. (As of 1977, it was reported that there were over 55,000 foreign technicians in Iran.) Governmental planning for higher education in Iran has not been systematic or comprehensive. The relationship of higher education planning to governmental budgeting has remained uncertain and confused. However, limited governmental financing has not been the problem. The principal limiting factor has been the lack of qualified full-time

faculty. Much student unrest in the universities has appeared to represent not so much an alienation from the regime as dissatisfaction with university instruction and with the prospects for high-level employment following graduation.

Thailand

Thailand has maintained a precarious balance of national independence in an area where colonialism, struggles for national sovereignty, and national liberation wars have been extensive and costly. In Thailand's endeavor to achieve and preserve national independence, higher education has played a major role. The Office of State Universities has been a fairly effective planning agency, determining enrollment, program objectives, and necessary resources for each of the governmental universities and institutes. The rectors of each university participate in governmental planning, and each university is expected to accomplish the objective assigned to it. All permanent faculty members and all staff members of the universities are considered employees of the national civil service.

The objectives of university operation have not been explicitly or formally stated. A government-appointed advisory commission recommended that the purposes be stated in terms of full development of individual student abilities, the supply of professional manpower, the provision of a knowledge resource center for government and society, the preservation of the cultural and artistic heritage of Thailand, and the cultivation of individual ethical standards. No formal action was taken on this formulation of purposes.

In practice, manpower planning has dominated higher education planning by the Thai government, and various five-year plans have emphasized manpower needs. The 1967 plan mentioned higher education in agriculture, medicine, the sciences, and engineering as requiring special attention and expansion. The 1977 plan stressed general national economic development and set forth target outputs by instructional programs. The Office of State Universities has had to clear specific program plans with the National Education Commission which has authority for coordination of educational programs at all levels.

The Thai government has developed a fairly elaborate planning structure for higher education as an integral part of the national

economic and social development plan. There are two levels of planning—by the individual universities and by the Office of State Universities. A National Education Planning Committee has functioned under the jurisdiction of the National Education Commission. In turn, the Education Planning Committee has operated through four subcommittees: one each for primary education, secondary-vocational-teacher education, higher education, and nonformal education. In preparing the fourth national plan for 1977, the working committee on higher education was chaired by the under-secretary of state from the Office of State Universities. The weak point in the Thai planning effort has been the lack of adequate information on manpower requirements related to the national economic and social development plan.

Mexico

Two particular issues have agitated the development of higher education in Mexico since 1910. One of these issues has been the relationship of universities to government and the one-party state. The concept of autonomy has been difficult to define and equally difficult to practice. In essence, autonomy has meant that the university freely selects its own faculty, deans, and executive board; freely determines its own organization and programs of instruction and research; and freely decides its standards of admission and the awarding of degrees.

Governmental interest in the university has, however, been substantial. Since the government provides practically all the funding, it has wanted some control over programs and costs. Governments have exercised veto power over faculty appointments and the selection of rectors by the universities' executive boards. But most importantly, federal and state governments have expected universities to serve their economic and political ends, and not to become the staging area for further revolution. The federal government has firmly rejected the idea that the campus of the National Autonomous University constitutes an extra-territorial enclave, a sanctuary from the application of national law.

A second issue has been that of financing and quality. In a developing economy the resources that can be budgeted for universities are limited. Most faculty members have served only part-time; they have had other jobs in the bureaucracy, business enterprises, and the professions. Students also have enrolled on a part-time basis,

apart from a small cadre of "professional" students. Instructional quality has been difficult to maintain under these circumstances, but as the affluence of the Mexican economy has improved, increased attention within the universities and within the government has been given to the potential for more effective instruction.

Manpower planning within the Mexican government and economy has been inadequate to guide higher education. A substantial increase in enrollment between 1960 and 1975 represented not so much a response to manpower needs as a response to rising social expectations. The fact that the principal degree awarded by the universities has been a *licentiate*, which is a license to practice a profession, underscores the manpower orientation of higher education. With 30 percent of current enrollment at the *licentiate* level occurring in the fields of law, economics, accounting, and administration, the prospect of an oversupply in these areas now confronts higher education planners.

The whole concept of national planning for higher education has been a relatively recent phenomenon in Mexico. In 1965 a national commission set forth five major educational goals: access for all youth to basic education and cultural advancement; the need for cultural upgrading of the Mexican people; more training and education before entry into the labor market; increased governmental financial support of education; and a general restructuring of the educational system. These goals pertained to the entire educational system; particular goals for higher education were not set forth in any detail. In 1976 an agreement was reached between the National Association of Universities and Institutes of Higher Education, the Secretariat of Education, and the Office of Planning for the more systematic collection and analysis of higher education data.

Although a great deal of discussion has been taking place within the universities and within the government about future directions for higher education, little in the way of definite plans and program objectives has yet emerged from these discussions. Higher education planning in relation to national economic planning just appeared, as of 1977, to be approaching a "take-off" period.

Poland

Since 1945 higher education in Poland has experienced some tension in the effort to reconcile the university heritage with the realities of

the socialist political order under the United Workers Party. The medieval university was open to all classes. The universities from the early 1500s until 1800 were open primarily to the gentry. With the advent of the French Revolution, and more particularly of the Napoleonic era, university reforms emphasized access on the basis of merit, rather than upon class. The United Workers Party has returned to the idea of class, only now access favors the working class. The university has continued to stress merit, and the socialist political order has found it useful to have the benefit of abilities wherever evident in the population. So, willingly or unwillingly, the socialist order has found itself compelled to accept some elements of the university tradition.

In Poland higher education has been centrally planned and directed, primarily by the Ministry of Science, Higher Education and Technology. As a result, a significant proportion of students are enrolled in the fields considered necessary for the socioeconomic development of the country. In 1976 nearly 35 percent of all students were in technology, science, mathematics, agriculture, and medicine. And about 40 percent of the students were studying part-time while working in a government agency or state enterprise.

The goals for Polish higher education have been set forth as:

- instruction of qualified persons for all jobs in the economy, culture, and other sectors of society requiring educated talent;
- education of scientific manpower for research and instruction;
- research and dissemination of knowledge;
- education for political and civic participation;
- education for cultural participation;
- education for self-satisfaction; and,
- education for service to government and local communities.

In general, higher education has been oriented toward meeting the manpower requirements of the national economic plan. Admission to a program of instruction has been a guarantee of employment upon completion of the program. As a consequence, enrollment input must be carefully controlled to ensure that employment needs are met but that a surplus of unemployable persons does not result. Higher education has been an integral part of the socialized political order in Poland.

Summary

In the previous five nations certain common characteristics are evident. Government's role in providing financial support is dominant, and with this is the government's insistence that higher education accomplish government goals. These goals are primarily economic, although for various reasons governments insist also upon cultural goals for higher education. Government planning has been the essential element in university building.

In the developing economies of these nations — Japan only became a developed economy in the 1970s — manpower planning in relation to higher education planning has tended to be inexact; Poland is perhaps the exception. While higher education was intended to provide educated talent for the economy, economic planners have not been very precise in their calculations of manpower needs. This failure has created many problems for governmental planning in higher education.

Planning: The Western European Context

Four of the twelve countries represented in this study were in the mainstream of the Western European tradition. All had developed economies. In the 1970s all were asking fundamental questions about the role of higher education in a postindustrial economic and pluralistic social order.

France

As of 1977, the essential problem of both French government and French universities was that of determining purpose. When the university system was relatively small in enrollment and the jobs for upper secondary teachers, faculty members, and researchers were relatively numerous, the system served national needs with little difficulty. With democratization of access, a decline in traditional jobs, and the continued domination of the specialized colleges in the governmental, economic, and social structure, substantial complexity entered the university world.

The same kind of story is evident in the accounts of other national experiences. But the French experience is unique in that it has retained an elite, effective instrument for developing top talent for

various demanding positions — the *grandes écoles*. The status of these specialized colleges remained untouched in the postwar years. Democratization of student access occurred in the universities without any corresponding change in the economic opportunities for graduates. The consequence was a major imbalance between the expectations of many students and their families and the harsh realities of French economic life.

The criticism of French university life grew in volume without any answer being provided by government or the universities. Universities were referred to as institutions providing baby-sitting for the unemployed, or as parking-lot institutions where the space for student and staff automobiles exceeded the space for learning. The universities were said to be badly managed and centers of discontent.

A strange paradox seemed evident. A society requiring complex and extensive knowledge was increasingly unable to articulate what it wanted from higher education and what it was willing to pay for. A loss of public confidence in higher education was paralleled by the universities' inability to define their mission and role.

As the country became more affluent, government planners sought to transform a limited effort in higher education into a broader effort, to transform a highly selective access into a "democratized" access. This planning was more concerned with access than with output. Few if any questions were asked about what students or society expected from higher education. It was presumed that social interest in higher education would be satisfied by a broader availability of the opportunity for higher education. The fatal flaw in such planning was the expectation on the part of each graduate that employment would automatically follow completion of an instructional program.

Between 1944 and 1974, higher educational planning in the French government was performed by a bureau in the Ministry of Education. In 1974 higher education was separated from the ministry and given the autonomous status of a separate Office of Secretary of State for Universities.* The change gave greater visibility to the national concern with higher education and promoted political interest in higher education. On two matters of immediate concern to higher education the Ministry of Education retained control:

*As of January 1978 the Office of Secretary of State for Universities became the Ministry of Universities. (ed.)

the education of teachers and the standards required of all secondary school students receiving the baccalaureate. On these two matters, the Office of Secretary of State had no authority, except such influence as it might bring to bear through government channels.

The Office of Secretary of State was advised by a conference of university rectors and a national council elected by the faculties of the various universities. Apart from the formula for allocating financial support among universities, the Office of Secretary of State has dealt with questions relating to degree structure, the role of the rectors as managers within a university, and instructional reforms designed to provide specialization appropriate to a wider range of occupations.

In 1976 and 1977 there were several strikes and other disruptions of university activities, in part reflecting accumulated student grievances over the quality of instruction and the dismal employment prospects for many degree recipients. These disruptions also reflected conflicts between faculty members, some of whom had embraced union membership and leftist political affiliations. The widespread feeling was that the government lacked a plan for higher education. A variety of problems had become evident: pedagogical conservatism and lack of innovation; confusion and dispute over selectivity and access to higher education; growing disparities in financial support among various universities; inadequate resources to improve instruction; and growing public and political criticism of university life. But there was no governmental plan for attacking these or related problems.

The United Kingdom

Immense changes took place in higher education in the United Kingdom during the 1960s. These changes were evident in increased enrollment and in the increase in the proportion of the gross national product devoted to higher education. Another change was the expansion of a new higher education institution — the "polytechnic." National planning became the means for accomplishing a national goal: the development of the opportunity state.

The Department of Education and Science (DES), the Scottish Education Department, and the Northern Ireland Ministry of Education were collectively described as engaging "in a complex set of relationships with the universities and the public sector." Parliament

largely exercised a critical and a review function, examing the use of funds and the results achieved. Government offices were mindful of university autonomy, while stressing national objectives as perceived or formulated by the government of the day. These objectives tended to be general rather than specific, allowing considerable latitude for institutional initiative. Organizations of vice-chancellors and principals, of polytechnic directors, of university faculty members, and even a national union of students influenced governmental decisions. But constrained national finances constantly limited educational performance.

The objectives of the 1960s had been to achieve social equality and meet the manpower needs of a changing economy; in the 1970s a major objective was to reexamine the relationship of higher education to the national economy. By 1976 it was widely accepted that there was no certain relationship between the performance of the national economy and the performance of higher education. However, no one was certain how to assess higher education's contribution to social equality in terms other than employment and income distribution.

Although it has been said that government gets its way in the United Kingdom, the observation makes little sense unless the government knows which way it is going. Planning by governmental departments has concerned such issues as the total number and distribution of enrollment slots available; the distribution of students among programs; the kinds of new programs needed and where they should be located; the allocation of research funds; the standards to be observed in awarding degrees in public institutions; the formula for the distribution of funds for support of institutions; and the level of grant assistance to be provided directly to students.

The DES and other departments engaged in such nationwide analysis to the degree that current information and current knowledge permitted. The University Grants Committee (UGC) served as the intermediary between the universities and the government, and so did the local authorities which sponsored the colleges of education and the polytechnics. The universities pressed their claims for programs and funds; the local authorities pressed their claims for a response to local needs and values as they perceived them. A separate process of financial planning within the government set limits on the resources that could be provided in any fiscal year for higher education support. The university allocation was then distributed

by the UGC and the DES distributed the public sector allocation. Fiscal planning was undertaken on a five-year cycle, but offered little assurance that institutional aspirations could or would be met. In the absence of a national economic plan and an authoritarian political regime, higher education planning became largely a matter of accommodating to budget constraints. In a unitary state (with a touch of federalism vis-à-vis Scotland in particular), the budgetary decision was a national decision which controlled all governmental and higher education planning.

Sweden

In 1976, the Swedish Parliament decided to alter substantially the organizational arrangements and thrust of Swedish higher education. These far-reaching changes were to begin in July 1977. The decision represented the outcome of ten years of intense reform discussions which began with the appointment of the 1968 Education Commission. As a result, the Swedish study largely reported on national planning procedures of the past. The assessment of what will happen as a result of the 1977 reforms must obviously be written at some later date.

Swedish universities and colleges have always been closely related to the political and economic objectives of the government. Higher education became in fact a branch of governmental administration. Faculty members had the status of civil servants, but they also enjoyed the privilege of academic freedom. But higher education lagged behind various other social services in the years after World War I. Only in the 1960s did governmental planning give greater attention to higher education. Sweden then embarked upon a calculated course to change higher education from an elite system to a system serving a much larger proportion of youth.

As the number of students increased in the 1960s, two other trends were noticeable in Swedish higher education: separation of instruction from research; and an increasing orientation of instruction toward a wider variety of careers, mostly in the technical category. Emphasis upon mass access to higher education brought about a shift from concern with the shaping of the students' character to concern with the transmission of skills useful in society.

The increased demand for higher education has been attributed largely to the growing affluence of Swedish families. This affluence meant that there was less pressure upon young people for early

employment. It also encouraged parents to hold greater economic and social expectations for their children. Simultaneously, the Swedish government responded to these expectations with a "democratizing" of higher education.

Another important factor in governmental planning was the advancing demand in the labor market for educated persons to fill white-collar jobs. One Swedish study found that during the 1960s three-fourths of all higher education graduates obtained employment in the service sector of the economy, especially in the public sector. The expansion of higher education itself helped to absorb a considerable number of graduates. As of 1970, however, it became apparent that unemployment of college graduates was increasing; it reached a peak in 1973. As a consequence, enrollments in higher education began to decline.

Since the end of the 1960s, Sweden has experienced another dramatic change in higher education enrollments. In 1968 about 17 percent of all students were over twenty-five years old. In 1971 this proportion had reached 36 percent, and in 1974, 46 percent; by 1977 it was over 50 percent. This change resulted in part from new admission rules, adopted in 1969, which permitted persons with four years of work experience to enroll in some faculties. This change also came about in part because students were taking more time to complete a degree program. But it was also evident that more older persons were enrolling in higher education without expecting to obtain a degree; their objective was cultural rather than economic.

The higher education structure in Sweden has consisted of two sectors: a "traditional" sector of selective and high-quality universities and colleges; and a second sector of broader access and less exacting colleges. This second sector consisted largely of colleges preparing teachers at the primary school level and those offering programs in technical education. In the 1960s, governmental planning encouraged enrollment expansion in this second sector, partly to lessen the enrollment pressure upon the traditional sector. Late in the decade, however, the distinction between the two sectors began to blur, as universities began to admit older students and to offer more career-oriented programs. Government planning pushed for a reduction in status differences in the interest of mass access and of "rational" distribution of programs and enrollment. There was only a small private sector of higher education in Sweden: a college of business administration with about 2,000 students in Stockholm;

four small institutions for the training of nurses; and one institution offering a program in social work.

The governmental organization for planning in Sweden was centered in the Ministry of Education. Only one major university, the University of Agricultural Sciences, was directed by another ministry. The Ministry of Education, which has only about 175 persons on its staff, has been expected to concentrate its attention upon high-level policy planning and upon the preparation of laws and budgets to be enacted by the Parliament.

Through a number of commissions, a National Board of Universities and Colleges headed by a chancellor carries out planning for specific areas within the ministry. The chancellor serves as the link between the institutions and the minister and the three undersecretaries of state. A planning and budget secretariat in the ministry is responsible for integrating planning with the budget of the ministry. All important decisions are made first by the Cabinet and then by the parliament.

In the 1970s the government added a new element to the planning structure for higher education: six regional boards with a university town as the "regional capital" of each region. These boards were appointed by the Cabinet, with fourteen of twenty-one members representing the public interest, two representing students, and five nominated by local branches of three powerful unions (blue-collar workers, white-collar workers, and professional workers). These regional boards had the same general planning assignment as the central planning commissions in Stockholm. The difference was their regional focus.

The most important ad hoc government commission was the one appointed in 1968. In its principal report, published in 1973, the commission set forth five planning goals for higher education: development of the individual personality; private and social welfare; democracy; an international perspective; and the promotion of social change. The 1973 report was the basis for the governmental reform legislation of 1975, directing that more detailed legislation be prepared by 1977.

The 1973 report recognized three factors determining enrollment in various higher education programs: the demand of individual students, the need for educated manpower in the labor market, and the governmental resources available for higher education services. But how these three factors were to be reconciled one with the other

was not set forth. Presumably, the answer was to be found in the decisions made about government budgets each year. At the same time, as educational reform was debated in Sweden, it became increasingly evident that selective access would continue to prevail in many programs — as in medicine, law, and the sciences — and that student demand meant primarily relatively broad access to certain institutions (not all) and to programs of instruction in the humanities and the social sciences.

Initially, it was proposed that the 1977 reforms should direct higher education: to serve the needs of society and the demands of individuals; to advance the development of economic welfare and of democracy; to preserve the link between instruction and research; to keep research free and independent of governmental control; to expect students to acquire general knowledge, skills, and critical ability, as well as prepare for a career. These provisions aroused such a storm of debate that the government abandoned them in the final draft. The 1977 law as enacted primarily addressed access to higher education for new groups of students, broader and more differentiated programs of instruction, and increased decentralization and participation in decision making by various social groups affected by higher education. Presumably the regional boards, as well as the national board would be expected to keep these goals in mind in their detailed planning.

The stage has been set in Sweden for a major confrontation between standards of intellectual meritocracy and the objective of mass indoctrination in "democracy" and "culture" by institutions of higher education. Throughout the 1960s Sweden moved increasingly toward expanding access to higher education in the name of democracy and social equality. How these goals are to be reconciled with higher education standards, with a declining labor market demand for educated manpower, and with available higher education program offerings are, presumably, the problems now being addressed by the government's planning machinery.

The Federal Republic of Germany

Since 1956, the federal government has participated in higher education planning in two ways: by making institutional grants for research; and by providing construction grants to the states for new

and expanding institutions. A federal Ministry of Education and Science was established in 1969 and a federal Ministry for Research and Technology was set up in 1972. A joint federal-state commission for educational planning has been important in guiding joint efforts in the planning of higher education facilities and programs since 1970.

The goals of the federal government (Bund) and states (Länder) for higher education have been several:

- to ensure that the structure of institutions of higher education forms a "cohesive" system in terms of instructional objectives, numbers, size, and location;
- to make certain that an adequate number of research facilities exist within the higher education structure;
- to achieve a desirable balance between research and instruction;
- to accomplish an effective use of facilities; and
- to assist state governments in realizing additional goals they may formulate.

After 1949 each state government established its own organizational structure for administering higher education. The usual arrangement was for the state to establish a Ministry of Culture and Education to which was added in the 1960s a higher education planning department. Faculty members were civil servants and their appointments required ministerial approval. Moreover, the complete financial dependence of each university upon the state government budget meant that the state government influence upon university affairs was substantial.

In the 1960s, two congruent forces brought about substantial change in West Germany's higher education. One force was the sudden expansion of German industrial output, an expansion that required educated manpower in addition to productive resources and markets for sustained momentum. The other force was a growing concern to broaden access to higher education, not just to maintain the pace of economic growth but also to achieve a "democratization" in higher educational opportunity.

Much of the concern about access centered upon enrollment in the *gymnasium,* the preparatory upper high schools, and upon the examinations given for the *abitur,* the essential entry card to higher education. Whereas about 6 percent of the age group passed this

examination in 1962, the proportion had risen to 12 percent by 1972. At the same time criticisms were made that certain groups — women, residents of rural areas, and industrial workers' children — were underrepresented in both *gymnasium* enrollments and in successful completion of the *abitur*. In order to broaden access a so-called "second road" to higher education was created: special preparatory schools were established in various states in order to prepare older students in their twenties for the entrance examination. Another method was to transform a number of institutions that formerly were part of secondary-level education into tertiary institutions, especially colleges of engineering. As a consequence, there was a sizeable expansion in the number of specialized institutions of higher education in the past ten years. In addition, increased attention was given to preparation for vocational and technical occupations within the framework of secondary education.

Even with the changes which took place, German universities found it necessary to place limits upon enrollment in many fields of study. Restricted access to particular instructional programs in various universities and specialized institutions placed a special burden upon the selection process. The state governments entered into a compact under which a central agency was established to handle admission to programs of restricted access (*numerus clausus*).

In 1976 the federal government enacted extensive legislation affecting higher education in the Federal Republic; all states were expected to conform to this law by 1979. The law requires universities and other institutions to prepare development plans in research, instruction, services, and administration. In addition, each state government is to prepare a comprehensive higher education plan.

The legislation created a good deal of controversy, both in terms of its implications for the federal system and in terms of some of its substantive provisions. Fears were expressed about federal government invasion of state government authority. Other fears concerned the standards embodied in the legislation. One provision was that students should be expected to complete their first-degree program in four years, since overcrowding in the universities was, in part, caused by the extended time taken by students to complete a degree. Some fear of a "professional" class of student agitators may also have prompted this provision. Another part of the federal legislation asked that administrative officers of universities be given authority to expel students who engaged in disruptive activity. A third provision

would make the existence of student government within a university permissive rather than required.

Considerable attention has been given to a provision of the federal legislation which, commonly referred to as the "group principle," recommends the creation of a tripartite university senate or council consisting of faculty members, students, and service personnel. In part, this was intended to overcome the deep division between senior professors and junior faculty members; both would now be defined as faculty. Partly this provision was to acknowledge student complaints that their criticism of faculty behavior and instructional content was largely ignored. But others have insisted that giving students a voice in university governance will encourage student radicalism and disruption.

West German universities have experienced considerable student disruption over the past ten years. This agitation may have been politically motivated and assisted from behind the Iron Curtain, but it also expressed the concerns of many students over restricted admission to various instruction programs, overcrowded university conditions, the changing prospects for employment, and the general economic policies of the government. It is hoped that by providing students with an official voice in university decision making campus unrest will be reduced.

Summary

Government actions affecting higher education in France, the United Kingdom, Sweden, and the Federal Republic of Germany were similar in many ways during 1950-1975. All four governments found it necessary to expand resources for higher education in order to meet national economic goals dependent upon a supply of educated manpower. They also sought to expand access in order to reduce inequities in educational opportunities. The manpower planning of these nations left much to be desired. None of the nations was prepared for the changing economic conditions of the 1970s: inflation in oil prices, continued inflation of all other prices, declining export and domestic markets, and rising unemployment. And all the governments found the cost of higher education an economic burden they were reluctant to meet in the 1970s.

Planning: The European Heritage

The remaining three nations in the twelve nation study of higher education are Canada, Australia, and the United States. All are English-speaking, with, of course, a sizeable French-speaking minority in Canada, and all acquired their intellectual tradition from Western Europe, especially from the United Kingdom. All have a federal structure of government, a pluralistic social structure, and developed economies.

Canada

Because Canada is a nation of two cultures, one-fourth of the population is French-speaking and three-fourths are English-speaking, the federal structure has special importance. Federal objectives for higher education have been defined largely in terms of three concerns: prompting research, encouraging access to higher education, and achieving growth. A system of federal grants to universities was undertaken in 1951 but was abandoned in the face of strong opposition on the part of Quebec. The French-speaking province feared that federal grants would produce cultural uniformity in higher education and destory the cultural uniqueness of Quebec. At that time, moreover, the province had not yet embarked upon its own extensive development of higher education which was to occur a decade later.

Government planning of higher education is performed essentially by the ten provincial governments. The provinces issue charters to universities and formally authorize specialized institutions, determine their location, and provide the major proportion of current operating and capital budgets. Canada's study of higher education grouped the ten provinces into four regions: the four Atlantic provinces, Quebec, Ontario, and the four western provinces. Higher education may have made the least progress in the past two decades in the Atlantic provinces. Efforts to encourage a regional approach to planning have not met with any notable support, and higher education has been perceived as having only a general relationship to the economic bases of the provinces which primarily depend on fishing, timber, and shipping.

In Quebec the provincial Ministry of Education, with a Division of Higher Education and a Division of College Education, has been

the principal planning agency. Two advisory commissions, one for higher education and one for college education link institutions with the ministry. During the 1960s and 1970s the province of Quebec became especially interested in the following issues: expanding enrollment opportunities; promoting some degree of balance between theoretical and practice-oriented instruction; achieving an appropriate degree of balance between governmental authority and institutional autonomy; and realizing a new relationship of support and mutual appreciation between academic and career interests.

The so-called "quiet revolution" of the 1960s produced a demand for the French population to take a more active role in the professional, managerial, financial and cultural life of the province. Higher education became the acknowledged avenue to realize this change. As a consequence, it became imperative to expand opportunities for French youth to enroll in higher education, and one of the major actions taken was the creation of the University of Quebec in 1968. Even so, government enrollment forecasts proved to be quite inadequate and enrollment growth continually exceeded expectations.

The provincial Quebec government has insisted that universities define their mission with some precision, and recently has determined to launch a major study of university enrollments, response to social needs, management, and contribution to the quality of life. Higher education has become important to the realization of cultural autonomy and increased economic participation by the French-speaking population in the province. But relationships have remained somewhat tense between the English-language universities and the provincial government because of uncertainty about future political developments.

The province of Ontario is the largest and most populous of the ten provinces, with one-third of the population of Canada. It is also the most highly developed economically, the most industrialized, the most urbanized, and it has experienced the most rapid growth of higher education.

The story of higher education in Ontario in the past fifteen years has been essentially a story of governmental planning. Within the provincial government the principal instrument of planning has been a Ministry of Colleges and Universities. Reinforced with various advisory councils and groups, including most notably the

Ontario Council on University Affairs, this ministry has had a large role in planning university and higher education expansion. A major concern emerging in the early 1970s was that of restricting enrollment growth in programs for which employment opportunities had begun to decline. The first such action was a limitation upon additional Ph.D. programs. The provincial government has also embarked upon a program of providing financial assistance to students, in addition to providing financial assistance to universities and colleges.

Canada's four western provinces cover a large geographic area but have a sparse population. All of the western provinces have established a department or commission to handle the processing of provincial grants to the various institutions of higher education. The major thrust of higher education in the western provinces has been to expand educational opportunities in remote rural areas by providing extension courses and setting up low-cost community colleges.

Canada as a nation and as a congregation of separate provinces has a somewhat uncertain record of planning. Planning at the university level has been less than adequate, frequently stymied in a conflict between scholarly interests in the transmission and advancement of knowledge and social objectives for an adequate supply of qualified manpower. Governmental planning has been responsive to social interests as these interests were interpreted by the elected political leadership of the nation and of the provinces. When these social interests shifted from a concern over the shortage of educated manpower to a concern over the surplus of manpower, governmental planning was not prepared to bring about reductions of enrollment and economies of expenditure.

Australia

In Australia, government financing of higher education increased steadily after World War II. Then, in 1969, a major development in higher education planning occurred with the publication of a report by a Commonwealth Committee on the Future of Tertiary (Higher) Education. The report recommended that universities reduce the number of part-time students they enrolled, withdraw

from subdegree instruction, and extend graduate education. Each state was urged to establish an Institute of Colleges to plan the development of technical colleges, teachers colleges, and other institutions. These changes were to be financed largely by increased federal grants to the states. Although these recommendations were not formally accepted or approved, they nonetheless pointed the way for much of the planning undertaken by the state governments during the 1960s.

In 1974 the federal government assumed complete responsibility for the financial support of higher education. The Ministry on Commonwealth Financial Assistance to States is responsible for administering the funds, and in 1977 a Commission on Tertiary Education was set up to advise the minister on the grants to be made for each university and college. Unquestionably federal financial support of higher education has enhanced the federal government's responsibility for higher education planning. The government, however, has displayed some reluctance to fulfill the planning obligations inherent in its financial position. Councils on universities, on advanced education, and on technical and further education were included within the Commission on Tertiary Education.

As of 1977 the Commonwealth government had not yet devised any continuing approach to national planning for higher education. University education continued to be oriented toward research and certain high-status professions. The colleges of advanced education were oriented toward preparation for specialized careers. A major problem was that of forecasting employment prospects for college graduates.

Within the universities and colleges, planning has been largely geared to the preparation of annual budget requests and three-year budget projections. When existing resources could be reallocated internally, universities and colleges could plan and implement changes on their own authority. When new or expanded programs would require additional financial resources, the federal government would demand very careful justification and would balance the expansion at any one institution against the desirable, or desired, expansion of another institution. At some point in this process, budget planning begins to assume all the characteristics of extensive program planning.

The United States

The United States was both the most populous and the wealthiest of the twelve countries of the ICED study. In many respects, it had the least planned system of higher education.

The federal government had only a modest role in higher education planning prior to World War II. Before 1940, it had given some support to state governments for the development of instruction and research in agriculture and in engineering. During World War II the resources of universities and colleges were mobilized by the federal government for the education of officers needed to staff military forces, and sizeable funds were provided for scientific research for military purposes. At the conclusion of the war, the federal interest in higher education shifted to the provision of educational benefits for veterans. The response of veterans to this opportunity was much greater than expected, and many billions of dollars were channeled into subsidizing their higher education. In 1950, the federal government created the National Science Foundation, which provides research grants to universities.

Beginning with the National Defense Education Act of 1958, the government became increasingly involved in financing student access to higher education. The social security system was expanded to provide educational benefits to dependent children of a deceased income-earning parent, and in 1972 the federal government began providing grants to needy students on the basis of their family's income. Thus, federal involvement in the field of higher education was concentrated upon support of research and support of access to higher education.

For the public sector of higher education, the principal planning agencies were the state governments. Almost all of these had established a board of higher education to advise the state legislature and the governor on matters relating to the operation of higher education in each state. State planning for higher education on a systematic basis began for the most part in the 1950s. Three problems were of paramount concern: expansion of facilities to meet the gradual enrollment increase of the 1950s and the substantial enrollment increase anticipated for the 1960s; expansion and introduction of new programs, especially technical education; and the financing of this expansion, including capital plant costs and current operations.

State government planning in the 1950s and 1960s was responsive primarily to social and economic forces. This planning was largely successful; at the undergraduate level every high school graduate who wished to go to college and who had the necessary financing had a place to go. Some public institutions remained or became quite selective in their admissions to undergraduate instruction, but others adopted the policy of open admissions for any high school graduate. State government planning sought to meet both qualitative and quantitative needs for enrollment. The decade of the 1960s in the United States was a period of substantial economic growth in which a considerable expansion occurred in technical, professional, clerical, and managerial employment. Every state government sought to provide the educational opportunity essential to sustain this economic growth.

The planning concerns of state governments began to change between 1970 and 1972, when it became apparent that the supply of educated manpower, except in a few professional fields, had caught up with and had begun to exceed labor market demand. This situation first became evident in teacher education because of a reduced birth rate beginning in 1961. Enrollments in elementary education began to decline after 1967 and in secondary education after 1975. The demand for research/scholars in all universities began to decline in 1968 and 1969. With the advent of the Arab oil boycott and economic recession in the final quarter of 1973, the whole economic climate of the United States, including higher education, underwent drastic change.

A new era of state government planning began in the mid-1970s. The principal change was financial, a reluctance on the part of state executives and legislators to continue to finance an expanding higher education endeavor when the economic need for such expansion was declining. By 1977, the most urgent item was the prospect of a dramatic decline in enrollment as a result of lower birthrates and reduced employment opportunities for graduates. This raised questions about whether enrollment reductions should be planned in terms of manpower requirements, or whether students should be permitted to enroll in instructional programs regardless of employment prospects. State planners were also concerned with how much and what types of educational opportunity should be provided for nontraditional students, for older students already in the labor market, and for those who had retired from

the labor market. Yet a fourth issue had to do with whether professional programs should be broadened in scope in order to educate students for alternative employment possibilities. Some were also urging that professional education should become more closely allied with professional practice.

Other items on the state planning agenda included: the future of research support; improvement of management efficiency; continued access to higher education for minority students; the possibility of adjusting instructional priorities from an economic to a cultural orientation; the future role of higher education in public service; and the reasonable costs and future sources of financing for higher education. As of 1977, no one in the United States could predict how the state governments would resolve these issues. The only safe prediction was that the solutions would be somewhat different in every state.

Finally, there was the planning role of private colleges and universities which constitute half of all United States higher education in terms of institutions but only 20 percent of all students. For this group, federal government grants have been primarily for research and student financial assistance. State governments also contribute in varying amounts, but the main support comes from charges to students. Very real fears beset the private sector as charges reach high levels and financial viability is threatened. Each institution struggles with its own planning while state governments are increasingly concerned about the private sector.

Summary

Canada, Australia, and the United States developed higher education structures to fit their individual circumstances. Australia moved to federal government support of universities and colleges of advanced education by 1975. In Canada and the United States, the provinces and the states were the major agents for planning higher education. All three national systems greatly expanded higher education in the 1960s in order to meet increased enrollment demand generated by higher birthrates and increased demand for educated manpower in the labor market. This expansion was possible because favorable economic conditions in all three countries permitted increased financial support for higher education. In the mid-1970s, when economic conditions worsened and

the proportion of the traditional college-age population began to decline, the future direction of higher education became uncertain in all three nations.

Management

Planning is preparation for action. Unless plans are executed—are managed—plans have few if any consequences. And in the modern state with its substantial bureaucracy, managers must be consulted about plans and carry out plans. Unless plans are feasible, they have no utility.

The job of management is to carry out work, to select personnel, to define and assign work tasks, to coordinate work activity, to provide the necessary work resources, and to inspect work accomplishment. In most organizational structures there is a hierarchy of management, a hierarchy of work planning and performance. In the field of higher education, work performance means primarily instruction, research, and other activities undertaken within a particular university or college. The whole subject of planning and performance by separate institutions of higher education did not appear as a major part of these studies of national experience. It was only of peripheral interest; the primary concern was national arrangements for planning higher education.

Since governmental planning for higher education arose mostly in the context of financial planning, there has been necessary interplay between institutional management and governmental planning. And certain aspects of institutional management became objects of governmental planning: the location of institutions, the role and mission of institutions, and access to institutional programs of instruction. The extent to which governmental planning and actions were made to accommodate a substantial management autonomy for particular universities and colleges is a subject of special significance.

Perhaps in no country was a formalized concept of university autonomy more discussed, or more carefully sought, than in Mexico. When the University of Mexico was founded in 1910, the then minister of education enunciated the doctrine of a public university to be financed by the federal government but to enjoy autonomy in management. Later the word "autonomous" was added by law to the title of the university. Essentially, autonomy

meant freedom from external constraint in the development of programs, the selection and retention of faculty, the admission of students, the internal allocation of financial resources, the development of curricula, the content of instruction and research, and the evaluation of student performance. Over the decades Mexico as a government endeavored valiantly to achieve and to preserve institutional autonomy for its national university, and for other universities as well.

Autonomy became a matter of national policy in France with the higher education reforms of 1968. From the days of Napoleon, the French universities had been subject to a considerable degree of centralized governmental direction. In 1968 two attempts were made to increase university autonomy: the first was to limit the enrollment size of universities, since management autonomy was conceived as being a function of manageable size; the second was to broaden the scope of management authority vested in the rector of each university and to reduce authority vested in the central government. After ten years of experience, the results of this endeavor remain uncertain.

Not just in Mexico but in all countries, two forces operated to weaken or to destroy the concept of university autonomy. One force was the growing dependence of universities upon government treasuries for their financial support. The second was the practice of some students and faculty members to use the university campus as a stage for assaulting the government regime. When universities proved incompetent or unable to enforce law and order on their campuses, governments intervened and autonomy suffered.

It is impossible here to undertake to comment about the entire range of management tasks that must be performed by a university or college. However, certain especially important aspects of management have been reported in the twelve ICED studies and afford a basis for some comment here.

Finances

In all twelve countries, governments were the dominant source of financial support for universities and for specialized institutions of higher education. In nations with a federal structure, there was a special problem of financing. Of the five federal governments included in this study, only one, Australia, had assumed full

federal financing of higher education (except at the vocational-technical level). The other federal governments had developed various arrangements for federal-state participation in providing support for higher education. The United States and Canada had financed research and student access to higher education. In Germany the federal government provided support for research and for university expansion. In Mexico the federal government provided all the financing for the National Autonomous University of Mexico, and was being drawn into providing general grants to the states to assist them in financing state universities.

Governments generally made a distinction between financing research and financing student instruction, but there were instances—in France and in the state governments of the United States—where funds provided to universities were intended to support both research and instruction. In France the general proposition was that faculty members in universities should devote 50 percent of their time to research and 50 percent of their time to student instruction. Yet at the same time faculty members had to apply to a national body for research funds needed for equipment and supplies, research assistants, and other direct costs of research projects. Much the same situation existed in Canada, West Germany, and the United States, only in these instances the faculty members of state universities applied to federal government agencies for their separately budgeted research.

The financial management problem for colleges and universities within a structure of governmental planning was two-fold: one part involved the preparation and submission of budget needs; the other involved the allocation of appropriated resources to the various operating programs and support programs within the individual institution. This second kind of budget authority was generally left to each university or institution, although the final budget allocations within a university might be subject to routine approval by a central ministry or a state agency. Generally, universities enjoyed considerable autonomy in their use of the governmental financial resources made available to them, although there might be a government audit of university expenditures and, in Iran, the central government has assigned a "treasurer-auditor" to each university to disburse all expenditures in accordance with an approved budget plan.

The determination of the "needs" of each university and college

was a major problem for governments. Usually, universities asked for more support than governments believed they could afford to provide. In some countries, a kind of bargaining process occurred. In these instances, the central university agency could not exercise an independent budget review but had, of necessity, to enter into careful negotiation with the treasury authority or the budget authority of the government. In some cases, as in Iran and in some state governments of the United States, the university budget requests were submitted directly to a government budget office under the executive power.

When "global" government allocations to higher education were made, two different procedures were used to determine how much a particular university would receive. The decision might be made by the budget authority and set forth in the appropriation law. Or the "global" amount might be set forth in the governmental appropriation document, and then the higher education authority was expected to allocate the total among all the institutions receiving government support. Thus, in the United Kingdom, the University Grants Committee not only negotiated with the Department of Education and Science (DES) for a "global" amount, but also determined the particular amount to be distributed to each university.

There was a good deal of discussion in all countries about the desirability of utilizing formulas for calculating university budget needs and for determining the allocation of a "global" higher education appropriation. When a formula was not employed, there was a very real possibility that some universities would receive special treatment and allocations would not be distributed fairly. About half of the countries in the ICED study employed formulas to calculate university needs and allocate funds—Australia, the United Kingdom, Japan, Sweden, the West German Länder, half of the state governments in the United States, and the two most populous provinces of Canada. Formulas were widely discussed in other countries, especially France and Iran.

Just as universities could be expected to ask for more financial support than they would receive, they could also be expected to complain that the support they did receive was inadequate; and, in fact, this complaint was almost universal in the twelve countries of the ICED study.

Because of their concern about access to higher education, most

governments were increasingly disposed to make decisions about instructional charges to students. A number of governments decided that no instructional charges should be made; others decided that instructional charges should be quite modest. Only in some of the states of the United States were instructional charges at public universities relatively high. Philanthropy was not an important source of higher education financial support in any country except the United States where this source of support was primarily important to private universities and colleges. In a few nations—notably the United States, Thailand, and Japan—private institutions did receive some governmental subsidy for their operation.

In the past, appropriations for higher education in most countries reflected a steady and occasionally spectacular increase. When this incrementalism slowed down, because of general economic recession or because of enrollment declines, universities tended to think that they were being disadvantaged financially, and tensions between universities and governments increased. For the most part, the various governments in the ICED study allowed the universities quite a bit of autonomy in the utilization of available financial resources. Yet this internal budget autonomy could not be considered permanent. As incrementalism in financial support slowed down, and university complaints about inadequate funds tended to mount, governments could be expected to respond with increased attention to the internal budget processes and decisions of universities. Budget autonomy could not be regarded as having an unchallenged future.

Admission of Students

Since governments have been concerned about access to higher education, their involvement in the admission of students was considerable. The problem of determining admission was approached in various ways.

Two methods of selective admission were employed among the twelve nations. One method was to have a national examination or a national standard for higher education admission. France and West Germany had used a national examination for a number of years. Sweden, in the past, had employed a similar arrangement to that of France, and, more recently, so had Thailand. In France

and the Federal Republic of Germany there was a separate structure of upper secondary schools preparing students for university admission. Selection in the first instance occurred when youth achieved access to one of these upper secondary schools. The graduates of these schools, upon successful completion of the prescribed examination, were then automatically entitled to university admission.

The second method of selective admission was to allow each university to determine enrollment. This arrangement has been the practice in the United Kingdom, Canada, Australia, the United States, and Iran. The *grandes écoles* in France had the authority to select which students they would admit, and consequently, they have a greater prestige than the French universities.

In Mexico, there was an interesting mixture of a selective upper secondary school and institutional autonomy in determining student admission. Most universities operated a preparatory school adjacent to or as a part of the university campus. The graduates of the preparatory school were eligible for admission to the university operating that school. If the graduate wished to enter a different university, then that university determined whether or not the graduate should be admitted.

As nations such as France and West Germany expanded access to their upper secondary schools, more and more young persons became eligible for university admission. Nations then were obliged to expand their universities, or conversely to limit admissions regardless of successful completion of a national examination. France found it necessary to expand its universities greatly. German universities, on the other hand, found it necessary to restrict admission.

In Sweden, efforts were made to broaden access in two ways. One approach was to direct universities to admit all students who had completed secondary education, not just upper secondary education. A second approach was to admit persons who were twenty-five years old and over and who had four years of work experience.

Of the twelve nations, the United States was the only country with considerable experience in open admissions to undergraduate programs. Although only six states had adopted legislation directing colleges and universities to admit any secondary school graduate who might apply, state government planning had, as a

matter of policy, undertaken to provide undergraduate facilities for all secondary school graduates seeking admission to higher education. The community colleges in particular had assumed this task, although many comprehensive state universities also admitted any secondary school graduate.

Of course, universities would rather decide for themselves which persons should be admitted. Private colleges and universities in the United States have this authority, although they are subject to national laws prohibiting any discrimination on the basis of race, sex, national origin, or religion. But governments tend to consider that the amount of financial support needed by higher education is closely related to the policies that determine admissions; thus, a majority of the twelve governments set up categories of eligibility for admission. Within these categories universities were expected to admit all applicants but were usually permitted to refuse applicants if they exceeded the number of students the university could accommodate in terms of faculty and building resources.

Selection of Faculty

Perhaps no aspect of management autonomy was more important to universities than the privilege of selecting faculty members and determining the criteria for selection. In all twelve countries this autonomy was, in general, honored by government. To be sure, in Poland faculty members are expected to be generally supportive of the socialist regime and the United Workers Party; yet faculty members enjoy life tenure in Poland and are only dismissed when they commit a flagrant crime against the state.

In five countries faculty members have the status of civil servants. Such status means that appointments are made by the minister and, in one case, by the national cabinet. Presumably, a minister might decide not to appoint a recommended individual as a faculty member but, in the event of such unusual action, the initiative for a different appointment remains with the university where the vacancy exists. Thus even where faculty members are considered to be servants of government, the selection process is in fact exercised by the faculty members, the dean, and the rector of the university.

In seven countries, faculty members do not have civil service status but are appointed by the governing authority of the univer-

sity itself. The selection process is similar in broad outline to that in universities where faculty members are civil servants. The difference is that the formal appointing authority is vested in some internal council or board. Thus, in a Canadian or an American university the appointing authority is the university governing board.

It may seem somewhat surprising to observe how generally accepted was the proposition that university scholars alone were competent to select other university scholars. Yet this proposition held sway in all the countries of this study and was not, as of 1977, under serious attack in any of them. Freedom to select faculty is the most widespread characteristic of university management autonomy.

Program Development

In general, governments insist that before a university can introduce a new instructional program—a new field of study or a new level of study—the prior approval of a government agency is required. This control is understandable, since new programs require new faculty members, new facilities, and equipment; hence, they require additional governmental financing, and governments are only willing to provide additional financing when they agree that a new program is needed. Except for the private colleges and universities in the United States, new programs everywhere required some kind of approval by the appropriate government.

Insofar as course requirements for a degree and course content are concerned, the prevailing practice is to leave this kind of decision within the authority of each university. There are exceptions, but even in so highly centralized a country as France, there is "educational" autonomy, the privilege of faculty members to determine the courses and the course content appropriate to a degree. Courses and course content are subject, of course, to the requirements for professional licensure in various countries. Thus ministries or departments of education were everywhere influential in determining the curriculum appropriate to preparing elementary and secondary teachers. Professional organizations of doctors, lawyers, engineers, and other such persons were influential in determining the curriculum for their respective fields. Specialized colleges and schools attached to particular ministries

were certain to be influenced or controlled in their course requirements and course content by their parent ministry.

There was some evidence in several countries of a certain amount of governmental restiveness about programs of instruction. For example, the government might feel that certain programs were too theoretical and not sufficiently practical. It might be said that students received too highly specialized an education and ought to be more broadly educated, or that students were not required to meet sufficiently high standards of performance. For the most part, however, these kinds of criticism had not resulted in any large-scale or concerted effort on the part of governments to decide course requirements and course content.

Summary

In most governments there is a widespread belief that there is not enough information available about the management of universities. One of the most interesting efforts to meet this deficiency was undertaken in West Germany, first with financial assistance from the Volkswagen Foundation and later with support jointly from the federal and state governments of the Federal Republic of Germany. The need for more information is being articulated in all nations.

The great expansion of governmental planning for higher education was not generally accompanied by a corresponding expansion of governmental management of higher education. Governments perceive political and social advantages in allowing some extent of management autonomy for institutions of higher education. This management autonomy is more evident in universities than in more specialized colleges. Yet the concept of management autonomy is widely respected in various governments.

There are, to be sure, certain implicit obligations that accompany the privilege of management autonomy. Because these obligations are implicit rather than explicit, they might be ignored by some faculty members and by some students. This circumstance might well bring about the eventual erosion of management autonomy. Even more threatening to the concept of management autonomy, however, is the unresolved issue concerning whether or not universities could manage the changes in work performance expected by governmental planning as this planning anticipated

the 1980s. The severe test of management autonomy was not provided in the 1960s. It would be provided in the 1980s.

Some Final Observations

Higher education has always had a close connection with government; as higher education became more important economically after 1870, and especially after 1945, governments became the principal source of financing for universities and other institutions of higher education. In the twelve nations of the ICED study, governments had of necessity become a dominant voice in the affairs of higher education.

There are dangers in seeking a ready comparability of experience across national boundary lines. Every nation is a discrete entity, with its particular traditions, cultural patterns, social structure, economy, and polity. Even when there are broad indications of similar problems and actions among nations, subtleties of attitude and behavior introduce substantial differences among social institutions from one nation to another. Nonetheless, some general observations may be useful in suggesting broad trends of action common in national experience, as well as areas of difference where more intensive review by others on a nation-by-nation basis may be appropriate.

In the first place, governments appear to be somewhat reluctant planners for higher education. Govenments have become heavily involved in higher education planning in large part because of the costs of higher education. As institutions of higher education have been asked to expand enrollments, to offer more extensive instructional programs, to undertake more research, to improve the quality of their endeavors—the institutions in turn have had to ask for more financial resources. At the same time, faculty members have sought salary increments commensurate with their increased economic importance to their respective societies. As the demands for financial resources to be provided by governments have become more insistent, governments have responded by increased review of university programs and by increased restraints imposed in the name of planning. This financial approach to policy and program planning has been especially evident in nonauthoritarian governments.

Budgeting has a concrete and specific content: the allocation of a particular quantity of economic resources to particular programs

of activity and to particular objects of expenditure. Planning is a much less precisely defined process. Governmental planning may select particular values and programs to emphasize and neglect others. Subsequently, imbalances must be righted and new concerns given their proper attention. Much of the government planning reported in these studies has been considerably less than comprehensive.

At the outset of this discussion we categorized the goals of higher education as essentially two-fold: economic and cultural. Governments, but not necessarily universities and other institutions of higher education, have added another set of goals as a result of government planning. These goals have been social in nature, and have commonly been referred to as "democratization" of higher education, as expanding access of higher education and achieving mass higher education.

The governmental goal of democratization had an economic purpose as well as a social purpose during the 1950s and 1960s. Everywhere economic growth produced demands for more technical, professional, and managerial manpower. Broadened access to higher education was an economic need. Accordingly, governments put pressures upon universities to expand their enrollments, and governments created new institutions of higher education to meet demands for high technology economies. At the same time, the expanding economic opportunities generated a social demand to increase access to higher education. In expanding the opportunities for higher education, governments professed that they were doing no more than responding to social pressures, to the expectations of large segments of their populations.

By the 1970s, governmental planning for higher education had hit a snag in every one of the nonauthoritarian nations: access to higher education had outrun the employment demand for educated manpower. Fluctuations in economic performance and in labor market demands presented new complications for government planning of higher education. Should access be restricted to fit changing employment expectations? What was the obligation of governments to ensure employment for all those who were admitted to higher education? Was there an appropriate noneconomic response by governmental planning to changing economic circumstances?

There was no evidence as of 1977 that any nonauthoritarian

governments had answers for these questions. The universities themselves favored more restrictive admission policies. Many persons within academic communities were convinced that democratization had destroyed, or greatly impaired, quality performance. It was notable that those institutions of higher education with the highest standards—the *grandes écoles* in France, the old universities of the United Kingdom, certain private and public universities in the United States—still found that their graduates were in considerable demand.

In authoritarian societies the goal of higher education was essentially that of meeting manpower needs. The competence of manpower planning and its integration with higher education planning sometimes left much to be desired. If the basic purpose of higher education is to be economic, then a high level of economic planning must precede higher education planning. Otherwise, wasted resources are—and were—the inevitable consequences.

In all twelve countries, there appeared to be some tension between governments and institutions of higher education. Specialized institutions of higher education, particularly those related to governmental ministries other than a ministry of education or a board of higher education, seemed to have the least difficult relationship with government. Perhaps the explanation is that these specialized institutions are more accustomed to responding positively and fully to governmental directives.

Universities had to look to governments for financial support, but they tended to look inward insofar as performance was concerned. These were certain ingredients for conflict. And the desire of universities for increased financial resources while national economies faltered in the mid-1970s simply added to the tension.

The restraint of governments in the use of their power of the purse has been notable indeed. The explanation must lie in a widespread political realization that university values were socially useful and hence worthy of preservation.

It was obvious that a new source of tension was appearing in the relationship between higher education and governments at the end of the 1970s, especially in developed countries. This tension is the product of differing views of the future on the part of universities and governments. Universities were inclined to believe that their economic and cultural outputs were just as valuable to a society and nation as they had ever been, and that governments should

continue to provide the desired financial resources on an expanding scale. Governments were inclined to believe that the economic and cultural outputs of universities were not so valuable as they had been in the 1960s, and that the financial resources provided higher education should reflect a declining economic importance. Here was the new planning issue to be resolved in the 1980s.

There was very little evidence that higher education planning by governments or by institutions of higher education had been particularly outstanding in the years since 1945. Little was accomplished in clarifying higher education goals, in rationalizing access, or in developing systems of universities and colleges with clearly differentiated roles and missions. It was uncertain whether or not governments and institutions could and would plan for change in the coming decades.

3 COORDINATION: PATTERNS AND PROCESSES

Burton Clark

To coordinate, according to Webster, means "to bring into a common action, movement, or condition; to adjust; harmonize."[1] This conventional definition suggests coordinators, active agents who link parts together to produce unified movement and harmony. Common usage of "coordination" has been similar in meaning, pointing to formal systems guided by planning and management. But to speak effectively of coordination in higher education, especially at the level of whole nations, we need a more variegated framework within which we may consider how parts are related to each other and to the whole of large systems—whether the parts are deliberately linked or not, common or dissimilar, and working in harmony or disharmony. As we shall see, it is better to assume that order is determined by various factors rather than produced by administration alone, much in the fashion of economists who approach organization as a problem of markets as well as of polities and formal agencies.[2] Karl Polanyi has pointed out that economic processes have been ordered in various societies by custom, interpersonal bonds, and markets, as well as by "authority."[3] And so it is for educational processes: they may be given some definable order by tacit agreements, implicit assumptions, and other nonformal processes, as well as by authoritative command and explicit rule. Indeed, academics may even be bound together by hallowed slogans. It was not so long ago that the phrase "we are a community of scholars" uttered in a small faculty meeting had the bonding power of a family benediction, fraternal handshake, guild oath, and military salute all rolled into one.

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The twelve country reports of the ICED study discuss coordination in the context of other features of national systems and their environments. My purpose is to place these discussions within categories and conceptual frameworks that allow some comparison of systems, including the consequences of different patterns. In the sections that follow, four simple questions are raised: What is coordinated? What—and who—coordinates? What are the basic patterns of coordination? What are the processes of increased coordination that are most apparent in the latter half of the twentieth century? The units of analysis, unless otherwise indicated, are national systems—nationwide aggregations of institutions linked in one form or another.

Structural Bases of National Coordination

Two factors primarily determine what is to be cordinated: the tasks of higher education; and the prevailing structure of embedded power.

The Structure of Tasks

A fundamental thesis in organizational theory holds that complex demands made by a diverse environment give rise to differentiated structures in organizations. As demands become tasks, we may say that complex tasks foster the development of a complex structure.[4] This point is relevant to the difference in problems of coordination between higher education and other realms of social activity, since higher education has exceedingly complex tasks that are likely to generate unusual, complex structures. How can we characterize the tasks of higher education?

Exaggerating slightly, we may view higher education as a social structure for the control of advanced knowledge. In the Western world, its basic organizational forms—universities and colleges—were, beginning in the twelfth century, locations for conserving and refining knowledge; professors (masters) and bachelors (journeymen), absorbed and sometimes assessed the knowledge handed down from past generations.[5] The primary activity was to transmit advanced ideas and skills to learners, defined as apprentices or students and socially segregated in a student role. Preparation for the professions became the central task, and the university

became a central place for legitimation of occupations as professions.

In the nineteenth and twentieth centuries, leading systems of higher education committed themselves to an additional role—discovering knowledge. University research became an imperative in many countries, turning the professor into a researcher as well as a scholar and teacher and providing science with its principal institutional home.[6] Higher education sometimes became involved in the solution of current problems, by providing expert advice or conducting applied research at the request of government or industry.[7]

Today, higher education covers the spectrum of fields of knowledge from archaeology to zoology, with business management, engineering, law, medicine, physics, psychology, and dozens of other fields included. A relatively simple list of curricula, as in Italy, contains over forty such fields; a heavily specialized and finely differentiated system, as in the United States, exhibits over twice that many fields within single universities, leaving aside the many subspecialities that appear within departments and professional schools that bring the list into the hundreds. And higher or post-secondary education differs in degree if not in kind from elementary and secondary education by focusing on more advanced, esoteric materials, and definitely differs in kind in many countries by including research and thereby serving as a principal location for science.

The complex structure of tasks has to be embodied in the operation of universities and colleges. The primary operating units, generally known as "disciplines," comprise a whole field of basic or applied knowledge. Disciplines are subcultures, with roots that run deep and wide, not mere administrative categories which can readily be fused to fit a neat chart. This produces an uncommon centrality of each unit, compared to organizations in other domains. Each unit can claim primacy in a front-line task: "Underlying the status of the department [in the English university] is its crucial characteristic of being authoritative in its own field of learning."[8] Relations among "production" units are strongly centrifugal: to each his own. We must expect, then, that academic coordination everywhere faces special problems, and is likely to take special forms that do not appear to a major extent in other institutions. At the institutional level alone, coordination in-

volves loosely coupled systems.[9] At higher levels, it is likely to entail relations so loosely connected as to be variously likened to federations, conglomerates, and markets.

Focusing on the tasks of institutions and systems offers a special bonus in permitting us to bypass the tangled thickets of "goals." The operationally meaningful goals of academic systems are the tasks of the disciplines. If the disciplinary building blocks meaningfully interlock to form larger clusters, then operationally they effect larger "purposes." However, real purpose evolves from what is actually carried out in the operational units, whether in isolation or in linked subsets. Thus we come to know about ends as we consult local and national configurations of tasks, rather than by turning to the historic pronouncements of Humboldt, Newman, Flexner, Hutchins, and others who were in the business of either prescribing reforms or of devising doctrines that would throw a net of legitimacy over diverse activities. Old doctrines, even in the old days, were probably pretenses to unities that never existed. Now, after the expansions and adjustments of the last two decades, increasing diversity in academic work has stretched traditional definitions of "goals" beyond repair.

The Structure of Embedded Power

Coordination has existed for as long as there have been institutions. In the twelfth to fourteenth centuries in Italy, there was a competitive flow of faculty and students from Bologna—the first medieval university in Italy—to the other institutions that had sprung up throughout the country. Since state authority was then radically decentralized to city and provincial levels, local governments were interested in attracting the new academic guilds, and academic personnel learned to move around in pursuit of self-interest, even on occasion in the name of self-preservation. That market-type interaction was apparently a dynamic and flexible form of linkage. This form diminished, however, and was replaced by more deliberate frameworks in the fifteenth century as universities took up residence in permanent buildings and the professors went on public payrolls, freeing teachers from dependence on students while tying them closer to officials.[10]

Throughout Europe, an understructure of guild faculties, often autonomous units within nominally unified "universities," came

under a systematic super-structure as state power, especially in the last two centuries, expanded, consolidated its hold, and developed bureaucratic capacity. "The public interest" in higher education became the formal responsibility of ministerial officials. The institutionalized intent was then to exercise control through regulatory bureaucracy, even if the regulation was general and remote. Particular public bureaus became crucial elements: a national ministry, where the national state, as in France, took primary responsibility for education; a provincial ministry where, as in Germany, that responsibility became lodged at the provincial level. But always underneath that superstructure there was an understructure of guild-like faculty units—small collective bodies of professors who ruled the faculty and the university.

A general European mode of top-bottom embedded power developed, which, compared to the American mode, has lacked a middle level of administrators and lay supervisors who are independent, to some degree, of professors and top state officials.[11] A combination of state bureaucracy and professorial guilds became the modal form of formal coordination throughout the world; this approach was compatible with the way that governments have viewed education as a public good, appointing one or more ministers as governmental custodians with professors as civil servants. As the pressures of modernization increased and problems became more complex, few governments were willing to place the welfare of higher education under the fragmented and localized control of institutions.

The exceptions to this have appeared in the leading Anglo-Saxon countries, following the model of institutional autonomy that developed between Oxford, and Cambridge, and the central government in England. The United States expanded on this model, evolving a patchwork of hundreds of loosely linked institutions. In both countries, public interests could be handled legitimately by private groups as well as state officials, and independent boards of trustees assumed responsibility for local institutions. Sometimes, however, guild-like associations of dons captured enough power to constitute their own versions of self-rule, as in late nineteenth-century Oxford,[12] or campus administrators became more influential than the trustees, as in some American universities during the last century.[13] In any case, the essential feature of the British and United States systems has been the absence of an

authoritative national or provincial ministry. The only higher officials or bureaucrats that professors had to meet with were local trustees, campus presidents and vice-chancellors, bursars, and registrars. The United States model is particularly striking in that it embeds so much power in the hands of trustees and institutional bureaucrats, at a middle level between state officials and professors, and that the authority of faculties is so interpenetrated with the authority of trustees and administrators.

Thus, the structure of authority may comprise a rigid hierarchy or be a matter of mutual adjustment and bargaining among various levels and groups.[14] In higher education, where the distribution of authority has been so heavily influenced by the expertise of scholars as well as by their traditional guild forms, those who propose new methods have to contend with the traditional complexes of authority that are rooted in ideology, structure, and vested interest.

National Patterns of Coordination

Formal Patterns

We can identify four general patterns of coordination that appear frequently among national systems of higher education in the twentieth century. These patterns are variations on two themes—monopoly of formal control, and monopoly of organizational form: (1) national control, over a single sector of institutions; (2) national control, over several institutional sectors; (3) national and regional control, with several sectors; and (4) private as well as public control, with several sectors.

National Control: Single Sector

This pattern expresses a double monopoly, one of authority and one of institutional type. There is only one system, and it is under a national ministry; the system contains essentially only one form, the state university, with 85 percent or more of enrollment in that one type of institution. The most extreme case of this form in Western Europe in the 1960s was the nationalized system of public universities in Italy, with 98 percent of all students in higher education enrolled in universities.[15] Among the twelve countries of the

ICED study, Sweden traditionally fell in this pattern, with a national system composed largely of a handful of university-type institutions that in the mid-1960s still absorbed 90 percent of the students.[16] Spain and Portugal appear also to be systems mainly of this type.

This pattern of double monopoly of control and form can be very resistant to change. But how much and how rapidly that resistance gives way depends on other features of the government of which higher education is a subsystem: for example, whether there is strong executive power, a competent and aggressive bureaucracy, a corporatist relation of external groups to government. In Sweden, the influence of economic groups on governmental policy, together with centralized power in a small planning state, has produced extensive and rapid change in the last two decades. In general, however, the double-monopoly pattern increasingly appears too limiting and systems are moving toward a more pluralistic structure.

National Control: Two or More Sectors

In this pattern, formal control is still vested in the national government but the system is differentiated into two or more types of institutions. This seems to be the most common pattern worldwide; it exists in communist societies, Western democracies, and Third World nations alike. Typically, the main sector is a set of universities, with one or more "nonuniversity" sectors organized around vocational instruction, or teacher training, or both, but occasionally around an esoteric function prized by the government. All sectors are financed primarily by the national government, sometimes through a single ministry but often through several ministerial channels. France is a striking case of this pattern, with its historical differentiation of universities and *grandes écoles,* specialized schools that have been more elite in nature than the universities. The university sector, containing the largest share of students, falls under the Ministry of Universities. Some *grandes écoles* are also under the authority of that ministry but have "a special status": others in this elite group answer to other ministries—for example, the *école polytechnique* to the Ministry of Defense. And then there are additional small sectors of Institutes of Technology (IUTs) and other enterprises devoted to technical

education and teacher training. The ICED French study notes, in general, that "the institutions of postsecondary education form a disparate group . . . responsible to different ministries."[17]

We can immediately see a qualitative difference in linkage from that of the single-sector national system: the major elements have different histories, clientele, and structures of governance. The various sectors are at least semiautonomous, and often have semiautonomous governmental sponsors to articulate and press their claims. Therefore, the parts are more difficult to relate and to change deliberately in a balanced way. In all the crises, governmental intervention, and planned reforms experienced in French higher education since 1968, the *grandes écoles* have remained off to one side, largely untouched. This sector receives protection from many sources, which is not surprising since the top governmental posts are filled with its graduates. Privileged access to the corridors of power is a solid underpinning for privileged autonomy. Hence, in a system often portrayed as having unitary centralized control, the presence of several sectors has meant uneven control, even a dispersion of control within government. And we should expect some similar dispersal even in those countries where the several sectors come under a single ministry, since the sectors themselves become anchored in different subbureaus within a ministry, with the bureaus pushing and protecting the interests of the sectors for which they are responsible.

Among the twelve countries of the ICED study, Thailand, Poland, and Iran also fall within this pattern of nationalized pluralism. In Thailand, only about 5 percent of the students are in nominally "private" institutions, which mainly provide business training, and even these colleges are "under the supervision" of a national government department.[18] The governmental institutions comprise two major types: universities with about 55 percent of the enrollment, and more specialized colleges with approximately 35 percent. A third minor type consists of a melange of other specialized institutions. And, as in France, different types of institutions are under different central bureaus: the universities under an Office of University Affairs; the colleges under the Ministry of Education; and other specialized colleges under other ministries—for example, seven nursing colleges under the Ministry of Public Health. The Thai system is an excellent example of a system actually spawned by different governmental ministries, including

many of the universities that are now grouped under the Office of University Affairs. Thus, authority for the system is dispersed among many regulating agencies within the central government. Further, instead of three subsystems of formal coordination corresponding to the three subsystems named above, there are "as many subsystems of coordination as number of parent departments... coordination occurs in terms of intra-subsystems rather than inter-subsystems."[19] So, even under a powerful central regime, formal coordination may be highly fragmented. The structure of the sectors themselves can be as important as the structure of government.

National and Regional Control: Two or More Sectors

In this pattern, control is divided between national and lower levels of governments. Countries have generally evolved into this pattern from a background that combined private sponsorship and public control located primarily at lower levels. The influence of the national government generally came late, after World War II and as recent as the period of expansion after 1960. At the same time, private sectors gradually vanished or became reduced to less than 15 percent of student enrollment.

Australia is an excellent example. There are two clear levels of governmental control, state and national, over three distinguishable sectors of universities, colleges of advanced education, and colleges of technical and further education.[20] Constitutionally, as in the United States, public authority is located at the level of the state, six in number. But the national government has had the power to make financial grants ("Section 96 grants") and has expanded its power from this base, since it requires political discussion and administrative guidance on what grants to make, commissions to advise it, and some ways of checking the propriety of expenditures. Then, too, the national government's role has expanded as scholars and institutions have voluntarily turned to it in their search for funds. As a result, both levels of government have become involved in all three primary sectors.

Among the twelve countries of the ICED study, Canada, West Germany, Great Britain, and Mexico also fall within the broad limits of this general pattern. Canada exhibits the strongest degree

of control at the provincial level, with a tendency at the present time for such control to become even stronger as part of the current trend toward political provincialization.[21] Here national influence is minimal, and the system tends toward pure provincial control over multiple types of universities and colleges, including short-cycle units similar to U.S. community colleges.

Control in Germany has also been deeply institutionalized at the level of the eleven Länder governments, but national bodies and components of national government have become more influential in the years since 1960. The central administrative machinery now plays a key role in determining who is admitted to universities and fields of studies and the courts are now active in specifying system-wide regulations.[22] West Germany remains a federal system, but one in which formal interests in standardization, as well as informal and quasiformal linkages, are considerably stronger than in Canada.

Great Britain, as usual, virtually eludes classification. It has not been a nationalized system in the style of its Continental counterparts, nor a truly federal system with separate state or provincial governments, nor can we comfortably include it with the systems in our fourth pattern which is characterized by private sponsorship as well as public control. Scotland, Northern Ireland, Wales, and England operate in higher education as public authorities—with the Scottish subsystem long rooted in its own distinctive set of characteristics—and Local Educational Authorities (LEAs) traditionally have had a strong role.[23] Thus, control has been pluralistic and there have been multiple sectors: universities of several types, from Oxford and Cambridge to the University of London, to the civic universities, and the set of new universities of the last two decades as well as a host of technical and technological enterprises, teachers' colleges, and a diffuse set of institutions offering "further education." The British system manages to have a nomenclature almost as confusing as that found in the United States, which is perhaps a good indicator of the traditional lack of control by national departments.

Mexico also has a public-federal pattern: about 90 percent of enrollment is in public institutions and these institutions are variously under "state" and national sponsorship and control.[24] Among the five countries of the ICED study which fall within this third pattern, one might suppose that Mexico would rank highest

in degree of national influence and lowest in institutional autonomy, since Mexico is widely classified by political scientists as an authoritarian state while the other countries stand as democracies. But, as Daniel Levy has shown, the relation between the higher education institutions and the central government is more that of a reconciliation system than an authoritarian system.[25] There is power and advantage on both sides, negotiation and bargaining are common, and financing is more determined by student numbers than governmental choice. Segments of the system are strongly and autonomously represented by bureaus within the central ministry of education, to the point where the ministry becomes "a loose coalition of fiefdoms," a good case of "structural feudalism."[26]

The wide range of characteristics among the five national systems included here indicates that our patterns do not have neat edges and boundaries but rather are broad zones that span several dimensions. For example, with only a slight shift in definition, Mexico would fall in our fourth category, since it has about 10 percent of its students in truly private institutions. Similarly for Great Britain: the major endowments of the dozens of colleges that compose Oxford and Cambridge make these institutions at least quasi-private in nature. Thus, differences among our patterns are often differences in degree – not in kind.

Private and Public Control: Multiple Sectors

Finally, there are systems of higher education in which formal control is in the hands of private parties as well as public authorities, to the point where 15 to 20 percent or more of the students are in institutions that receive most of their financing from nongovernmental sources and have boards of control selected through nongovernmental channels. This is the most heterogeneous pattern of control, one that coexists generally with the multiplicity of institutional types. Japan is a good example with some 75 to 80 percent of its students enrolled in private institutions. The country has numerous major sectors and subsectors: a small set of imperial universities supported by the national government; a larger number of additional public institutions, supported by city and provincial as well as national government; a large number of private universities and colleges, varying widely in quality; and over 500 junior col-

leges, mainly private ones.[27] As in the United States, each private institution has its own board of trustees. The imperial universities set the pace: and, within this small group of elite institutions, the universities of Tokyo and Kyoto are widely recognized as a distinctive subclass whose status and privileges are virtually unmatched anywhere in the world, including the *grande écoles* in France and Oxford and Cambridge in England. At the universities of Tokyo and Kyoto, admission and placement are tight: certain faculties virtually monopolize placement to certain bureaus and firms. But in other institutions within the system, admission is lax and placement problematic; the great heterogeneity of sectors entails great differences in selectivity and job possibilities. The Japanese system is deeply involved with mass higher education, virtually on a par with the United States with a rate of participation double that of most European countries. The evolution into mass participation came about primarily by expansion of relatively unselective private colleges, with less expansion in the selective public institutions.

The United States system is also typical of the fourth pattern, with 3,000 institutions almost equally divided into about 1,500 private colleges and universities and a similar number of public institutions, the latter all within the fifty subsystems of the states.[28] Thus public control as well as private control is fragmented: traditionally, the national government has played a small role, much less than in Japan, and the influence of national bureaus developed quite late and in an uneven fashion. Most states now have something like a tripartite differentiation of state universities, state colleges, and community colleges. In many states, community colleges receive considerable support from local funds and are under the control of local educational authorities. Then there are private universities, varying from the well known "research universities" to less known "service universities" that have little endowment and have learned to survive on tuition and fee income (like the majority of Japanese private universities and colleges). Finally, there are over 700 private colleges, which arose during the colonial period and the first half of the nineteenth century and which run the whole gamut of selectivity and quality and span the full range of secular and religious differences in American life.

These four patterns do not exhaust the possibilities; the definition of their boundaries is meant to be loose and tentative rather than tight and permanent. They mainly indicate the broad range

of patterns prevailing at present. We now turn to several concepts that refer to different modes of coordinating relationships, concepts that will permit us to compare national systems of higher education within the larger context of social systems.

State Authority, Market, and Oligarchy

We can simplify and yet give greater flexibility to the patterns mentioned earlier if we establish a continuum which delineates tight to loose linkage in the national systems. Following Roland Warren,[29] at the tight end of the continuum we would have a unitary structure in which all units are parts of an inclusive formal structure and have common goals. Moving down the continuum, we would find a federative context in which the units primarily have disparate goals but possess some formal linkage for purposes they share. Still further along the line would be a coalitional structure in which disparate goals are so paramount that there is only informal or quasiformal collaboration among the parts. And at the end of the continuum would be a "social-choice" structure in which decisions are made independently by autonomous organizations and there are no inclusive goals. The concept of social choice, as opposed to central decision, was developed by Edward Banfield:[30]

> A *social choice*. . . is the accidental by-product of the actions of two or more actors—"interested parties," they will be called—who have no common intention and who make their selections competitively or without regard to each other. In a social choice process, each actor seeks to attain his own ends; the aggregate of all actions—the situation produced by all actions together—constitutes an outcome for the group, but it is an outcome which no one has planned as a "solution" to a "problem." It is a "resultant" rather than a "solution." [Emphasis in the original]

"Resultants" may produce new viable structures that become permanent solutions. For example, in the United States graduate schools arose as a solution to the need to underpin research and advanced training, they were never centrally planned nor apparently even tacitly agreed upon by a small group of leaders. They were a social choice, resulting from competitive interaction and voluntarily adopted by autonomous institutions.

Reformulating our terms slightly, we can think of the two ends of the continuum as "national administration" and "market dynamics" in their classic forms. Hence the continuum, moving from left to right, is one of decreasing national control and increasing market-type interaction, with combinations in-between that can be referred to by such terms as federation, confederation, and coalition.

We can illustrate how national systems of higher education might be arranged on this continuum by placing six of the systems covered in the ICED study in the following order:

Sweden	France	England	Canada	Japan	United States
State Administration					Market Linkage

Sweden has the most inclusive and tightest system of state coordination; France is similar but with some disparity introduced by multiple bureaus and sectors and more looseness due to its larger size. England has moved along the continuum from right to left rapidly since 1965, from coalitional linkages with strong market elements, to tighter federative connection, and then to a more inclusive state structure, but is still in the middle range. Canada remains heavily confederative and even coalitional, with the authority of the provinces straining mightily against national linkage. Japan's system has extensive market characteristics in the interaction of its 1,000 institutions, but with some movement in the 1970s toward greater state coordination as increased governmental funding of private institutions generates governmental guidelines for all. At the end of the spectrum, the United States system is the most heavily endowed with characteristics of autonomous choice and exchange in the labor markets, consumer markets, and enterprise markets of higher education.[31]

There is little doubt that the years since World War II, especially the 1960s and 1970s, have seen a general shift from loose arrangements to tighter and more inclusive formal systems. Even the United States, the market system par excellence, has not been immune to this shift as the costs and complexities brought by expansion have strengthened the perceived need to bring order out of disorder, first at the state level, where the formal machinery of coordination has changed qualitatively in the last two decades, and

secondly at the national level.[32] But some unified national systems have been moving in the opposite direction. For example, Sweden, France, and Italy are attempting to shift toward regionalization and other forms of decentralization, including decentralization of political authority. And Canada's provincial systems are continuing to move away from any unified national control.

But then there are national systems which are not coordinated by political-bureaucratic dictate nor by market-type interaction. For example, Italy has a nationalized system that severely dampens market relations within it; at the same time, its coalitional government has been relatively weak and its state bureaucracy relatively mediocre, especially in the Ministry of Education. It turns out that state authority has functioned largely as a mock bureaucracy, a facade of public control, behind which senior professors have had primary power.[33] The great power vested in chairholding professors in European systems has been used in Italy to build professorial control in national bodies responsible for finance, personnel, curriculum, and research. On some issues, the control by chair professors at the national level has had the unity of a relatively small oligarchy, as superbarons came together in a central council or maintained informal contact. On other issues, particularly in those specialized along disciplinary lines, such as the allocation of research monies, the small-group control has been more pluralistic or polyarchical in nature. In either case, the point is that there have been "authorities" in charge, not market mechanisms, but the authorities are professors rather than bureaucrats. For simplicity, we refer to such coordinative organization as academic oligarchy. It may also be denoted as guild authority, since it combines personal authority with collegial authority in a way historically associated with guilds and guild federations and has its academic roots in the guild structures of the original European universities.

Some coordination by academic oligarchy exists in all national systems of higher education. It is prominent in chair-based organizations, which establish conditions that propel a few professors to national power, by means that vary from sheer inflation of status to steady participation in central councils. The extensive powers of clusters of senior professors, even in the face of a strong and competent bureaucracy, have been a notable feature of traditional French academic life.[34] German professors have had powerful col-

lective voices at national as well as at provincial and local levels, in such bodies as the Science Council (Wissenschaftsrat), the West German Rectors Conference, the University Association, and the disciplinary committees of the German Research Association.[35] Aligning academic tasks according to disciplines is a primary source of oligarchical linkage: the discipline is the first avenue along which academics become national notables either on the basis of recognized research contribution, chair incumbency, or their administrative role in national associations and bodies.

National systems that are not formally organized are likely to depend heavily on the many ways that academic oligarchy can link together persons, groups, and institutions. The classic case is Great Britain, where the University Grants Committee, manned largely by prominent academics, has shown the world an effective way of taking the government's money without taking orders from government officials. When institutions are funded mainly by government, academics normally favor the privileged autonomy of a direct and unfettered lump-sum grant from the national treasury to the individual institution, so that some older institutions have become fixed items in the state budget. But once some type of formal interinstitutional coordination is established, as it has been virtually everywhere, academics prefer to have a buffer body, an intermediate group that "understands the institutions," is "sympathetic to their needs," and will represent them to government. And they have a persuasive case; on grounds of expertise and representation such bodies should be staffed with academic persons of stature, influential within and outside their disciplines and institutions, and with persons of known administrative skill drawn from the field.

The intermediate body is not the only means by which academics can obtain influence, but it is a key one that is seized upon in one system after another, for different sectors and at different levels of government. In Australia, for example, where British traditions such as the UGC have been borrowed and adapted to a more extended federal setting, intermediate bodies have developed at both national and state levels and for all three major institutional sectors: at the national level, in the last several years the Australian Universities Commission has served the university sector, along with the Commission on Advanced Education and the Further Education Commission, with all three Commissions

now to be reconstituted as statutory councils for their respective areas under the new umbrella Tertiary Education Commission established in 1977. Somewhat parallel bodies, especially for the second and third sectors, have been created at the state levels, amounting to six subsets.[36] And, especially at the state level, the sectors and their respective commissions have historically been generated by, or have related to, government departments. The situation two decades ago was that: "In each state except New South Wales, a single university related directly to its state government, while teachers colleges, institutes of technology, technical colleges, agricultural colleges and similar institutions generally came under the direct control of a particular state government department."[37]. The specific commissions emerged as buffers between sets of institutions and related government departments, with the latest reforms establishing broader commissions and attempting to regroup departmental sponsorship. For a nation of less than fifteen million people and only six states, Australia is not short of intermediary bodies!

We may think of such bodies as a form of structured pluralism in coordination. The buffer form of oligarchical influence is found in all four national patterns identified earlier but it is likely to develop extensively in those systems historically rooted in federative, coalitional, or market environments of institutional development. In these systems, the vacuum of official authority is filled, at least in some minimal part, by the professionals getting their heads together. Systems rooted in ministerial control have fewer buffers. In these nationalized systems, there are two main possibilities. One is that central civil servants will keep power in their own hands to a degree commensurate with the systemwide responsibilities that they carry. Delegation of administrative authority is then a matter of line officers placed in the field, for example, in the traditional French style of prefectural supervision. The other possibility is that power will pass into the hands of academic notables as they penetrate and surround the ministry.

With academic oligarchy omnipresent or lurking in the wings, our continuum from state authority to market can be reshaped as a triangular space of state, market, and oligarchical forms of coordination. Mainly as illustration, we may try placing within this triangle the six countries that we previously arrayed on the continuum, as a way of weighing the influence of academics (Diagram

A). Sweden remains relatively close to the pole of state coordination, since that country has developed strong capacity during the last two decades for state officials and allied interest groups, to override the traditionally strong power and privileges of professors. It is now a Western European country in which academic barons feel particularly pushed around by the state and outside groups. France moves somewhat more toward oligarchy, since, despite a strong and competent ministry, the continuing situation has something of the character of a standoff between the formally superior powers of the central officials and the capacities of university personnel to ward off, reshape, and attenuate state-imposed rules and policies.

Of the six countries, Britain comes closest to an academic oligarchy, due to the extensive role of intermediate bodies (the University Grants Committee, the Council for National Academic

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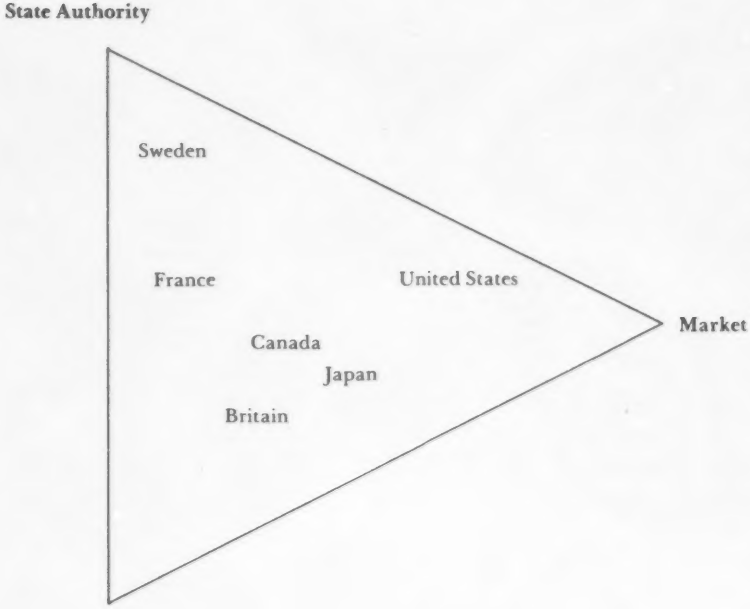
DIAGRAM A
Types of Coordination in Six Countries



Awards, the Regional Advisory Councils) on which academic notables have a dominant or significant role. Even after the significant increase in state power that has occurred since the mid-1960s, deliberative coordination in Britain remains a blend of the bureaucratic and the professional. In the British study, Becher, Embling, and Kogan have noted that the "central government has the determinate role in shaping the system overall:"[38] this is not left to the market nor to academic judgment. Yet, given the traditional respect for institutional autonomy and individual academic freedom, the government is "coy" about stating national objectives, and the intermediate bodies, although increasingly to be seen as parts of the machinery of government, retain "academic judgments" and are heavily involved in "resource decisions."[39] The indeterminacy of objectives and the freedom of these bodies means that coordinative planning by the state is generally weak. Compared to the strength and style of a European ministry, national coordination comes out as implicit, covert, and indeterminate.[40] The realities of governance in British higher education remain shaded, but there is no doubt that some academics retain significant influence in the determination as well as the implementation of national coordination.

Canada, with a somewhat weaker tradition of oligarchical influence, is located close to Britain. And if we drop for the moment the distinction between national and provincial levels of government, then we find government (that is, provincial) officials exercising considerable bureaucratic influence upon subsystems, particularly in Quebec and Alberta.[41] Japan, given its complexity, is difficult to place; on the one hand, national coordination is formally left largely to ministerial officials and not to bodies analogous to the British University Grants Commission; on the other hand, the chair system, mixed with certain Japanese characteristics of small-group loyalty and cohesiveness, has given senior professors a strong power base.[42] The towering status of the universities of Tokyo and Kyoto has also given academics at those institutions national influence as well as privileged autonomy. The United States, inordinately complex, exhibits relatively little coordination by senior academics at either state or national levels. Lacking the power base of European and Japanese counterparts, American academics are poorly represented in the superstructure of control that stretches from the level of multicampus administration to state-level boards,

commissions, and departments and to national-level departments, bureaus, and institutional associations. American professors might control their departments, and their multidepartment faculties, colleges, and professional schools, and even occasionally have an important coordinating role in the campus at large, for example, in the case of the powerful Academic Senate at the University of California, Berkeley. But they are not found in significant number and strength at the higher levels, outside of research councils. Indeed, it is noteworthy that even voluntary commissions established to address national issues in higher education are manned by administrative representatives rather than by prestigious professors.

In our diagram of types of coordination, most of the action in most national systems is now located to the left of the midpoint: the open battle is between state officials and professors. The market is either not perceived as a form of coordination or as one that gives undependable and undesired results. On the part of responsible academics as well as government officials, there is the assumption that there should be an authority, someone in charge. And the government officials are not automatic winners in this battle, easy victors in an unequal context. They do move toward dominance in a variety of ways, for example, through ministerial control over the location and expansion of facilities, segmental budgeting, administrative staffing of coordinating bodies, and legislative program evaluation. But academics have imposing counterbases, rooted in the need for experts to participate in the decision-making process. That need constantly expands and proliferates, as the complexity of the disciplines and academic tasks increases. Governments need academics; and academics, like other professionals, learn how to penetrate and control bureaus of government as well as to convince government to construct such congenial forms as grants commissions and governmental foundations.

Contemporary Processes of Increased Coordination

We began by looking at the nature of academic tasks and the structure of embedded power as the stage for national coordinative organization. We then tentatively grouped some countries in four broad patterns, based on degree of monopoly in formal control

and institutional form. And then we attempted to analyze the underlying dimensions of variation by specifying three basic elements of state authority, academic oligarchy, and market. Building and expanding upon these rudimentary elements, we will now attempt to be a little more precise in establishing categories for cross-national comparison.

Recent research, including the twelve ICED studies, reveals that a number of processes of coordination have been in operation in the last quarter century. Some of these processes are closely interlinked and convergent, the one encouraging the other. But some contradict others and pull in disparate directions. Contradictions in the means of coordination should be expected. As emphasized throughout this essay, we improve our understanding of coordination as we give up simple definitions that encompass only coordinating boards and ministries of education and adopt perspectives that point to fundamentally different ways in which the actions of groups and organizations are linked. In order to comprehend that complexity, we will set forth fourteen processes of coordination, grouped under the four headings of "bureaucracy," "politics," "profession," and "market." Bureaucracy and politics are largely, but not entirely, constituent parts of government authority, and have become considerably more powerful in many countries in recent years. In our previous discussion, we did not distinguish between bureaucrats and those groups that possess or have access to government power but are above or apart from the civil service. Here we will separate "bureaucratic" from "political" power.[43] The processes of profession and market may be seen as counterforces to state authority. They operate significantly in a number of national systems, and while they appear to have weakened in the last decade, they may be stronger than currently recognized since they are less obtrusive than the government-related structures and thereby not so readily noted. Some of these processes may also increase in strength in the near future as countervailing forces to the powers they oppose.

Pathways of Bureaucratic Coordination

Bureaucratic coordination is well known, referring in general to coordination by means of formal administrative hierarchy. But it

may be usefully broken into a number of underlying processes; the five we will now discuss have been observed frequently in higher education in recent decades.

Bureaucratic Route I: Layering

Under this type of coordination, there is an increase in *levels* of formal coordination, governmental or quasi-governmental. Decentralized systems add new higher levels; centralized systems introduce more intermediate levels. This route is widely noted in the country studies: for example, the United States and Australia have been adding higher levels of coordination in essentially new or vertically extended administrative superstructures, while Sweden is introducing regional councils. This pathway may be described as "layering," and it is often an enduring structural side-effect of reforms. Reforms necessitate reorganization, and "reorganization often results in layering—the piling of administrative echelon upon administrative echelon in an unremitting quest for coordination, symmetry, logic, and comprehensive order."[44]

Layering makes administrative pyramids taller. It is often loaded with unanticipated and undesired effects: the additional layers distort communication between the top and the bottom, thereby rendering administration less rather than more consistent and dependable. Reforms enacted today help establish massive command structures that rigidly resist reforms tomorrow; and efforts to consolidate and streamline by means of additional comprehensive top layers make a small number of posts at the top highly attractive and induce a loss of talent and initiative at middle and lower levels. The highest positions on public campuses in the United States are probably becoming less attractive as three or four layers are laid down over them in the form of multicampus administration, state governing boards, state government surveillance, and a web of national government regulations.

Bureaucratic Route II: Jurisdictional Expansion

This type of coordination involves an increase in the jurisdictional scope of administrative agencies, singly and in combination. Existing ministries of education are given or seize expanded responsibilities; additional departments are established and quasi-

governmental commissions become more comprehensive, replacing specialized commission or placed over them. Such expansion in the scope of central bodies is widespread, noted in one country after another as efforts are made to pull together formerly separated domains and to cope with the creeping disorder of a bewildering variety of tasks. Public accountability is a basic force behind such expansion.

Expanded jurisdictional authority has the effect of making administrative pyramids wider and more firmly structured. In Japan, the jurisdiction of the Ministry of Education steadily expands in relation to the huge private sector of universities and colleges, making that sector quasi-public to a greater degree. In the United States, a host of national departments have developed an administrative reach into and over hundreds of universities and colleges as they attempt to supervise proper expenditure from various accounts.

Bureaucratic Route III: Increasing Personnel

This pattern involves an increase in the number of central administrators who attend to matters of higher education. Layering and jurisdictional expansion generally result in such enlargement. But the enlargement can come about in a host of ways, for example, through expansion of personnel who attend to old duties within the existing structure of an old bureau. This phenomenon is evident throughout the world. Thus, the mid-1940s in Sweden, the central staff who attended to higher education amounted to a few people within the Ministry of Education and only three civil servants in the Office of the Chancellor of Universities. As late as 1960 there were only seventeen administrators in the Chancellor's Office. But by the mid-1970s, the administrative staff had grown to over twenty-five persons in the ministry and 170 in the Chancellor's Office. The great increase in personnel in the Chancellor's Office was stimulated not only by the general expansion of the system (tenfold in students between the mid-1940s and the mid-1970s), but also by a deliberate change in the character of the Chancellor's Office from "a representative of the universities," elected by the rectors, to "a regular state agency," appointed by the Cabinet, and operating "wholly in line with the pattern of Swedish state agencies in general."[45] In Britain, the administrative staff of the University

Grants Committee increased from about six in the early 1950s to over 140 in 1975.[46] Many of the UGC's permanent staff members are civil servants who are appointed by the Department of Education and Science.

Bureaucratic Route IV:
Administrative Specialization

This process involves shifting from amateurs to experts in line positions from top staff to institutional administrators, with the amateurs replaced by persons who make a career in administration, become expert in specific administrative areas, hold long terms in office, and are appointed rather than elected. The composition of coordinating bodies also shifts toward greater dependence on full-time permanent staff and less on the part-time, temporary generalists, as in the case of the British UGC. As administrative work becomes more specialized, administrative credentials and experience become more essential for entry into formal positions of coordination. A separate administrative class develops, and, as its members mainly interact with each other within large staffs removed from professors and students, that class develops a separate culture. Hence the dilemma: can the center of attention in academic work be held by professors and students if the hierarchical power center is distant from them and held by administrators with little or no background in teaching and research? These tendencies have been observed in research in the United States on administrative staffs at the institutional level.[47] The tendencies are bound to be even stronger in the layers of coordination above the institutional level, since staffs in the superstructure need skills applicable across larger and more complex systems, and are more removed from faculty and students. The day of the "nonacademic" academic administrator is here.

Bureaucratic Route V:
Rule Expansion

The increase in the number and complexity of regulations is a universal aspect of what is commonly meant by bureaucracy: no expanding or changing system of higher education apparently escapes it. The regulations may be of various types: for example, some are meant to guide decisions at lower levels, as in the case of budget

categories, while others are meant to check the compliance of personnel with policies or decisions already made at higher levels, as in the case of auditing and inspecting practices.

This route of bureaucatic coordination is relatively easy to measure in gross terms, cross-nationally and over time, since it can be observed in the indices and volumes of administrative codes and commission regulations. For example, national laws and regulations that pertained to higher education in Italy in the mid-1960s comprised a twenty-page index of 800 items and 1,000 pages of specifications.[48] Of course, enforcement of the regulations is another matter, and when enforcement is weak, as in Italy, the administrative structure becomes a mock bureaucracy, a paper tiger.

Layering stretches the administrative superstructure vertically; jurisdictional expansion spreads it horizontally. Increasing personnel fills it with more people; administrative specialization, with more experts; and rule expansion insures that the larger, better-manned structure will have a commensurate massive body of regulations. These processes, separately and together, tend to increase the coordinating influence of bureaucrats. As a result, administrative officials in central committees, commissions, and councils, as well as in ministries and offices of education, become more active and dominant in the formation as well as the implementation of policy. However, the influence of the bureaucratic tendency is affected by numerous features not mentioned here that vary from one nation and context to the next, especially in the administrative organization and culture of the national executive branch. In some cases, often in less developed countries, state bureaucracy is relatively "laid back," passive and benign; in others, often in the most developed societies, it is assertive, multiplying regulations in excess of legislation and accumulating autonomous authority. Higher education systems move from benign to assertive bureaucracy as they are goaded to modernize, become efficient, and plan.

Pathways of Political Coordination

If the bureaucratic avenues of coordination have gained the most in recent decades, political means have not been far behind. The political pathways cause a system to behave like a set of contending

interest groups, with interest expressed informally and through associations as well as through the established channels of representation in the major branches of government. The political tendency is widespread in organizations, as parts become divergent interests, but its strength varies considerably from one setting to another. In contrast to bureaucratic process, however, less is known about political coordination, so we will use broad categories to point to the most visible elements. They center on regular political officials, external interest groups, and internal interest groups.

Political Route I: Increased Regime and Party Involvement

There is an increase in the influence of elected officials and those appointed to top offices by political parties and regimes. Such officials assume more responsible assertive, and intrusive postures. More issues in higher education are divided along the lines of party politics, legislative coalitions, and power exchanges among central executives. Committees on higher education policy are formed within the party, the legislature, and the minister's own office.

In terms of regime and party involvement, higher education in apparently every country in Western Europe is more "politicized" in the mid-1970s at the national level than it was two decades earlier. Sweden appears to be a leading example. In Great Britain, rising costs and popular interest have caused "the political class" to become more involved, right down to asserting party doctrines of what will be done for, or to, higher education when the party assumes power. In Eastern Europe, communist rule is devoted to strengthening this form of coordination, as in Poland, through the dual and interpenetrating dominance of the single political party and the one party regime.[49]

Political Route II: Increased Corporatism

This type of coordination involves an increase in the systematic inclusion of certain external interest groups in governmental decision making in the realm of higher education, with a related, if often covert, exclusion of other groups. The outside groups are formally organized as associations, unions, and councils and the government recognizes the organizations as representatives of cer-

tain bona fide interests.[50] As Samuel Beer has noted: "The welfare state and especially the managed economy of recent decades simply could not operate without the advice and cooperation of the great organized producers groups of business, labor, and agriculture." Beer identified a "new group politics" in Great Britain as a "system of quasi-corporatism bringing government and producer's groups into intimate and continuous relationship" in framing, applying, and legitimating state policies.[51]

This relationship has not yet developed strongly in the British system of higher education, since robust departmental bureaucrats and academic oligarchs have obstructed it, but one can anticipate gradual increase in its strength. The phenomenon has been particularly striking in Sweden where the government has worked long and hard to develop an inclusive democratic corporatism. There, in the last decade, the three major trade unions have gained strong representation in the planning and decision-making bodies concerned with higher education at national, regional, and enterprise levels: "Several hundreds of representatives of interest organizations participate in formal decision-making bodies in higher education, from the board of management of the National Board of Universities and Colleges down to councils of admission in local institutions. . . . Simply put, the big interests of capital and labour have stepped in."[52]

Corporatism shades off into various ways of relating interest groups to governmental decision making; some are less explicit and less systematic in the interpenetration of government and group. In a number of societies, for example the United States, there is quasi-corporatism and covert corporatism in the systematic access of organized lobbies to legislative and executive circles. Throughout the world, such representation is increasingly organized within the interest group itself and we shall see more of such organized penetration and interrelation in the coming decades in the coordination of higher education.

Political Route III: Increased Participation

This route involves an increase in representation and involvement within the ranks of higher education itself. The "participation" or "democratization" phenomenon has been particularly strong

during the 1970s in Western Europe, with institutions in West Germany and Denmark most notably affected by new participation rights and privileges for junior faculty, students, and nonacademic personnel. In one form, the participation is corporatist in that it is based on organizations that claim to represent various strata and factions. In another, it is direct representation from unorganized strata.

"Politicization" by means of increased involvement of internal interest groups is not a form that directly enhances state authority. It tends, like the processes listed later, to operate as a counterforce to the control of political and administrative officials of the state. But, like the forces of state influence, it is a process that encroaches on the power of senior professors: the common enemy has been the academic barons. The state-linked bureaucratic and political processes attempt to move power into nonacademic hands in central circles, while the formerly weak internal groups of junior faculty and students attempt to move it into their own hands, generally at lower levels of organization.

Pathways of Professional Coordination

Universities and colleges are central sites of expertise in modern society, and systems of higher education, old and new, are full of professional as well as bureaucratic and political forms that link participants and set the agendas of decision making. We point here in a general way to three broad routes of professional influence in coordination.

Professional Route I: Expansion of Subject Expertise

With this process, authority is pulled downward in the structure of national systems and toward academic expertise rather than bureaucratic or political bases. We noted earlier, in a quotation from research on British universities, the stubborn centrality of the parts, the primacy that each department is able to claim as the authoritative unit for a given discipline or professional field. The great strength of this understructure, in comparison to the super-

structure of national systems, is a remarkable phenomenon, one apparently linked to the nature of academic tasks discussed at the outset of this essay.

If the superstructure of state control should be able to impose its will on the understructure of faculties, departments, chairs, and institutes anywhere among Western democratic nations, it should be in Sweden, where, as mentioned, state political authority is strong, corporatist groups are active, the bureaucracy is competent, and planning capacity is relatively developed—all in a small homogeneous society. Yet an insightful 1977 research report from Sweden notes an ongoing "antithesis of central importance" between the real governance mechanisms in universities and colleges and the mythology of central governance. Against the rules and formal organization of central control there is the reality that:[53]

> the internal life of universities and colleges is to a great extent guided by interests and needs attached to their organization into disciplines and subject departments and to the status of research and graduate studies. Various bodies above [the] departmental level tend to respect each other's efforts towards resource maximization, to preserve the balance between power centres and to safeguard the status quo. Central governance is often out of step with real local governing mechanisms, *in which case it becomes unrealistic and inefficient*. [Emphasis added]

The understructure is not simply passive, forced to give way to the superior powers of the bureaucratic and political tendencies that strengthen state authority. Rather, central state coordination becomes "unrealistic" as it moves out of step with the organic professionalized understructure.

Academic expertise is necessary to systems that are simultaneously knowledge-intensive and knowledge-extensive. This expertise has an expansive dynamic of its own, rooted in the actions and interactions of the scholarly community. Realistic coordination is shaped by this expansion, accommodating to home rule by professionals. There is de facto coordination at the bottom, as accord is collegially accumulated, and much influence is exercised by the bottom over middle and top levels of formal organization.

Professional Route II:
Expansion of Central Collegial Bodies

This type of coordination develops from an increase in central bodies manned by professors and/or institutional representatives and an increase in their coordinative powers. This phenomenon is most noticeable in the support of research: the distribution of scientific funds in virtually every country is heavily influenced by peer review among academic notables sitting on central science councils and commissions. But the expansion of central collegial coordination is not limited to science. It has become especially potent among institutional representatives who have banded together voluntarily in reaction to growing bureaucratic and political forces. National conferences of rectors are now more active than before in the German-speaking countries of Austria, Switzerland, and the Federal Republic of Germany. The national Committee of Vice-Chancellors and Principals in Great Britain has become a powerful organ to which the academic heads of all the universities belong. The CVCP becomes an additional central academic body to which the institutions can turn, beyond the University Grants Committee, to gain a voice in centrally determined matters. It, too, seeks to coordinate on "matters of common interest" through its own system of working parties, its own staff, its own deliberations, and its representation of the universities' definition of "the case" to the UGC and the Department of Education and Science.[54] And so it is in many other countries, especially in those where the top campus posts have traditionally been weak and have only become important in recent years.

Professional Route III:
Expansion of Faculty Interest Organization

This phenomenon has also been stimulated as a counterforce to bureaucratization and the growing influence of external political forces. Old local collegial bodies have been replaced or supplemented by new forms linked to national organizations of professors, for example, academic senates and local chapters of national unions. Institutions traditionally characterized by weak faculty influence have been especially quick to seize upon modern union organization as a way of increasing professional power. The professorial unions bargain with high levels of administration and politi-

cal authority and thereby, as in the industrial domain, become tools of coordination, particularly in determining the conditions of employment and work.

Pathways of Market Coordination

It has been left primarily to political economists to grasp and explain the ways in which market interaction coordinates the behavior of individuals, groups, and organizations. It is not necessary to slip off into the mystery of an invisible hand that leads individuals to promote larger ends. All social controls have elements of the automatic and unintended; people in the market sector "are deliberate and conscious; but their acts accomplish feats of coordination of which they are not necessarily conscious and which they do not intend."[55] For example, one coordinating function of a market system is constant occupational reassignment, with consumer preferences and occupational preferences reconciled as labor is reshuffled from one field to another, one specialty to another. Even in the most state-dominated systems of higher education, market dynamics are at work. "Exchange," a basic form of interaction that stands in contrast to authoritative command, needs to be seen not merely as a method for shifting the possession of things but also as a method of controlling behavior and of organizing cooperation among people, in higher education as elsewhere.

Market Route I: Increased Consumer Sovereignty

This phenomenon occurs whenever public funds for higher education are distributed to individual students rather than to institutions and choice among institutions is widened. Nearly all regimes use a consumer market in higher education to some degree by awarding scholarships and other forms of financial aid, as well as by lowering tuition. Allocation to consumers is particularly attractive in a country such as the United States in which the thinking of planners and public officials is heavily influenced by economic market theories: let the government influence higher education indirectly by letting aggregate consumer reactions decide the fate of programs, institutions, and sectors. But everywhere apparently

students have *some* capacity to vote with their feet, moving from undesirable to desirable institutions and thereby promoting one at the expense of another.

Market Route II: Creeping Institutional Markets

This process involves decentralization of operating authority from the national to the institutional level. Students of centralized political regimes have noted that such regimes are likely to be subjected to creeping decentralization because of the increasing scale of the sectors they attempt to manage.[56] The center cannot hold the integrated control it exercised over a smaller, simpler system: authority slips off to the enterprise level, restrengthening market forces in the sense of interaction among at least semiautonomous enterprises.

This phenomenon is inherent in higher education systems, due to the unusual complexity of academic tasks. No group at the center has the tools for tight integrative control; no central group can know enough to coordinate effectively so many disparate tasks and issues that are subject to so much local variation. Again it is instructive to return to the case of Sweden. This small advanced nation, with the best planning among Western democracies and with a population of only eight million (one-sixth the size of France, one-quarter the size of the United States), is currently attempting to decentralize by granting more official authority to regional boards and local entities, in order to better handle local variations in study programs.[57] What is accomplished in Sweden by official proclamation often occurs unofficially and haphazardly in larger, less-planned societies. And systems which have evolved central coordination out of traditionally decentralized arrangements probably have lower thresholds at which the increasing scale of central coordination will trigger a reaction toward decentralization. Just as systems may creep up on institutions, institutions may creep away from the extensive controls of centralized systems, leaving coordination to looser linkages and even to market interaction.

Market Route III: Extensions of Power Markets

We noted earlier, as the second pathway of bureaucratization, the tendency for specialized coordinating agencies to be consolidated into units of broader administrative scope. But there is an opposite tendency that runs within all modern governments: bureaus focus on specific domains and clientele and they stubbornly resist all efforts aimed at coordinating their interests with those of other bureaus. Vertical lines of coordination tend to form naturally, but horizontal lines tend to be weak and require special attention because they attempt to encompass disparate interests. [58]

Mexico exhibits a relatively extreme case of this phenomenon, especially fascinating since a regime labeled "authoritarian" by political scientists ought to have the will and the political and administrative muscle to pull things together. But lateral cooperation between departments within the huge Mexican Ministry of Education rarely takes place: "All departments work totally independently one from the other and take no interest in what others are doing....The Ministry is an archaic structure which can be described as a series of independent empires, each inviolable, with long traditions and rights that no minister is going to be able to alter."[59] Such "archaic" structures were also noted in the ICED studies on Thailand and Iran. And modernized structures cannot rid themselves of bureaucratic independence, protectionism, and struggle. Indeed, the larger the complex of governmental tasks and the greater the degree of professional specialization in those tasks, the greater the power of individual bureaus. And the more socialized the state, the more the interest-group struggle of modern societies appears as a struggle of divisions, bureaus, departments, and ministries against one another. Given the special complexities of higher education, its absorption into government departments and bureaus is bound to produce great struggle among the agencies involved.

Thus, we come to see that higher education is subject not only to markets in the normal economic sense but also to power markets in the sense of units struggling against one another within the broad frameworks of state authority. And this, too, is a form of coordination. In a classic essay written thirty years ago, Norton E. Long pointed to "competition between governmental power centers" as

a, perhaps *the*, most effective instrument of coordination in complex government. He noted:[60]

> The position of administrative organizations is not unlike the position of particular firms. Just as the decision of the firms could be coordinated by the imposition of a planned economy so could those of the component parts of the government. But just as it is possible to operate a formally unplanned economy by the loose coordination of the market, in the same fashion it is possible to operate a government by the loose coordination of the play of political forces through its institutions.

Recent studies on the interpenetration of state authority and economic markets have also pointed to various forms of interaction within the bounds of state authority. Authority is operationally dispersed among a plurality of officials and offices. The hundreds of interagency coordinating committees in Britain and the United States have been created to pull these disparate agencies together. As pointed out earlier, the mutual adjustment that occurs among these agencies assumes much of the load of coordination. A pattern of reciprocal obligation among officials develops. In sum: "large-scale politico-economic organization is possible either through unilateral coordination in hierarchy-bureaucracy or through mutual adjustment among authorities who practice an extended use of their authority in order to control each other."[61]

This is especially applicable for administrative pyramids that have no apex, but instead have a variety of boards, bureaus, commissions, and committees at the top level. It also applies to structures that depend upon diverse experts for guidance and that are committed to encompassing all of the increasing body of specialized knowledge, skill, and lore of modern society. In short, it applies to systems of higher education. Thus, it is no wonder that we come to know so little about how higher education is coordinated when we look only to the formal plan and the formal hierarchy. Much of the coordination actually takes place in other ways, including through the struggle, exchange, and adjustment of officials at the higher levels.

Conclusions

Nationwide coordination of higher education is achieved by means as varied as those of state authority, market interaction, and

academic oligarchy. All the systems in the ICED studies have employed all three of these methods and all three will be needed in the future. The special function of state authority is to articulate a variety of public interests, including equity, as these are defined by prevailing groups within and outside of government. The special function of the market is to enhance and protect freedom of choice, for personnel, clientele, and institutions, and thereby indirectly promote system flexibility and adaptability.[62] The function of academic oligarchy is to protect professional self-rule, to lodge the control of academic work, including its standards, in the hands of those permanently involved and most intimately acquainted with it.

One form of coordination should not be pursued fanatically to the exclusion of the others. Given the special tasks of higher education, it is not possible to coordinate by the market alone, nor can either state or professional hegemony in itself do what must be done. Instead, there should be reconciliation among the three. State authority and professional control each now have reasonably wide acceptance as general principles; it is the contribution of market relations that is currently least understood and accepted.

Hence in this essay we have taken special pains to point not only to the contradictory processes of political, bureaucratic, and professional coordination, but also to stress processes of market coordination which are less apparent and have received little attention. It is better to think in terms of a variety of routes and pathways of coordination and of the respective contributions of multiple elements. It should be the many faces of effective coordination that interest us. Rationality in the coordination of higher education, of all domains of modern activity, comes in many guises.

FOOTNOTES

I wish to thank the members of the Yale Higher Education Research Group for discussion and criticism of the ideas presented in this paper.

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14. Lindblom has noted that mutual adjustment "carries much of the load of coordination in any government," since authority is divided among a plurality of officials, the officals have reciprocal obligations, and their interdependence

requires that they adjust to one another, which, among other things, means that they exchange favors of authority. Lindblom, *op. cit.*, pp. 17-32.

15. Burton R. Clark, *Academic Power in Italy: Bureaucracy and Oligarchy in a National University System* (Chicago: University of Chicago Press, 1977), pp. 8-34.
16. Rune Premfors and Bertil Östergren, *Systems of Higher Education: Sweden* (New York: ICED, 1978), pp. 32.
17. Alain Bienaymé, *Systems of Higher Education: France* (New York: ICED, 1978), in Introduction.
18. Sippanondha Ketudat *et al.*, *Systems of Higher Education: Thailand* (New York: ICED, 1978), pp. 7, 9, 11.
19. *Ibid.*, p. 113.
20. Bruce Williams, *Systems, of Higher Education: Australia* (New York: ICED, 1978); Barbara B. Burn and Peter Karmel, *Federal/State Responsibilities for Postsecondary Education: Australia and the United States* (New York: ICED, 1977); Grant Harman, "Issues in the Co-ordination of Post-Secondary Education," paper prepared for the Enquiry into Post-Secondary Education in South Australia, August 1977.
21. Edward Sheffield *et al.*, *Systems of Higher Education: Canada* (New York: ICED, 1978).
22. Hansgert Peisert and Gerhild Framhein, *Systems of Higher Education: Federal Republic of Germany* (New York: ICED, 1978); John H. Van de Graff, "Germany," *Academic Power: Patterns of Authority in Seven National Systems of Higher Education*, by John H. Van de Graaff and others (New York: Praeger Publishers, 1978).
23. Tony Becher, Jack Embling, and Maurice Kogan, *Systems of Higher Education: United Kingdom* (New York: ICED, 1978).
24. Alfonso Rangel Guerra, *Systems of Higher Education: Mexico* (New York: ICED, 1978), p. 57.
25. Daniel Levy, *University Autonomy Versus Government Control: The Mexican Case*, unpublished Ph.D. dissertation, University of North Carolina, 1977, pp. 246-47.
26. *Ibid.*, pp. 208-209.
27. Katsuya Narita, *Systems of Higher Education: Japan (New York: ICED, 1978)*, pp. 22-24; Donald F. Wheeler, "Japan," in Van de Graaff and others, *op. cit.*
28. John Shea, "Design and Function," *Systems of Higher Education: United States* (New York: ICED, 1978), p. 19.
29. Roland L. Warren, "The Interorganizational Field as a Focus for Investigation," *Administrative Science Quarterly*, Vol. 12, 1967, pp. 396-419.
30. Edward C. Banfield, *Political Influence* (New York: The Free Press of Glencoe, 1961), pp. 326-27.
31. Labor markets are those where people offer their capabilities and energies for money: hence faculty and administrative employment constitute such markets. Consumer markets are where people exchange money for desired goods and services: hence student payments to institutions constitute one or more consumer markets. Enterprise markets are where enterprises deal with each

other: hence interactions among colleges and universities, and between them and outside agencies and firms, constitute, in some part, enterprise markets. Planned systems attempt mainly to control this third type of market, to have controlled rather than freely competitive relations among the enterprises. The enterprises are the key, for as Lindblom points out, they sit astride the whole market structure. Lindblom, *op. cit.*, pp. 37-38.

32. Alan Pifer *et al.*, *Systems of Higher Education: United States* (New York: ICED, 1978); Burton R. Clark, "United States," in Van de Graaff and others, *op. cit.*
33. Burton R. Clark, *Academic Power in Italy, op. cit.*; Burton R. Clark, "Italy," in Van de Graaff and others, *op. cit.*
34. Robert Gilpin, *France in the Age of the Scientific State* (Princeton: Princeton University Press, 1968;, especially pp. 112-23; Terry Nichols Clark, *Prophets and Patrons: The French University and the Emergency of the Social Sciences* (Cambridge, Mass.: Harvard University Press, 1973); John H. Van de Graaff and Dorotea Furth, "France," in Van de Graaff and others, *op. cit.*
35. John H. Van de Graaff, "Germany," in Van de Graaff and others, *op. cit.*
36. Williams, *op. cit.*; Burn and Karmel, *op. cit.*; Harman, *op. cit.*
37. Harman, *op. cit.*, p.3.
38. Becher, Embling and Kogan, *op. cit.*, p. 82.
39. *Ibid.*, p. 84.
40. *Ibid.*, p. 82.
41. Sheffield *et al.*, *op. cit.*, sections on Quebec and Alberta; OECD, *Reviews of National Policies for Education: Canada* (Paris: OECD, 1976), p. 82. The OECD Report noted tendencies toward unchecked bureaucracy and overstaffing at the level of provincial authority, especially in Quebec and Alberta.
42. Donald F. Wheeler, "Japan," in Van de Graaff and others, *op. cit.*
43. My thinking on these two categories has been stimulated by Olof Ruin's excellent discussion of the four processes of bureaucratization, corporativization, polticization, and centralization in Swedish higher education. I have freely revised and regrouped his categories for my purpose of cross-national comparison. Olof Ruin, "External Control and Internal Participation: Trends in the Politics and Policies of Swedish Higher Education," Report No. 1, Group for the Study of Higher Education and Research Policy (Stockholm: Department of Political Science, University of Stockholm, May 1977), especially pp. 67-74.
44. Herbert Kaufman, *The Limits of Organizational Change* (University, Alabama: The University of Alabama Press, 1971), pp. 76-77.
45. Premfors and Östergren, *op. cit.*, p. 24.
46. John Vaisey, "Higher Education Planning," in *Higher Education and the Current Crises*, edited by Barbara B. Burn (New York: ICED, 1975) pp. 191-98.
47. Terry F. Lunsford, "Authority and Ideology in the Administered University," in *The State of the University: Authority and Change*, edited by Carlos E.

Kruytbosch and Sheldon L. Messinger (Beverly Hills, California; Sage Publications, 1970), pp. 87-107.

48. Burton R. Clark, *op. cit.*, p. 65.
49. Jan Szczepański; *Systems of Higher Education: Poland* (New York: ICED, 1978), section on "Management of the System of Higher Education."
50. Philippe C. Schmitter, "Still the Century of Corporatism?" *The Review of Politics*, Vol. 36, No. 1, January 1974, pp. 85-131; Leo Panitch, "The Development of Corporatism in Liberal Democracies," *Comparative Political Studies*, Vol. 10, April 1977, pp. 61-90.
51. Quoted in Panitch, *op. cit.*
52. Premfors and Östergren, *op. cit.*, p. 90; see also Olof Ruin, *op. cit.*, pp. 69-71.
53. "Planning for Change in Higher Education," (summary report of a project led by Bertil Östergren), *R&D for Higher Education*, 1977: 12 (Stockholm: The National Swedish Board of Universities and Colleges).
54. Becher *et al.*, *op. cit.*, pp. 22. 27, 45.
55. Lindblom, *op. cit.*, p. 39.
56. Joseph S. Berliner, *The Innovation Decision in Soviet Industry* (Cambridge, Mass.: The MIT Press, 1976), pp. 17-18.
57. Olof Ruin, *op. cit.*; Premfors and Östergren, *op. cit.*
58. On the balkanization of bureaus and their constituencies (and their legislative counterparts) in modern government, see Henry W. Ehrmann, "Interest Groups and the Bureaucracy in Western Democracies," in *State and Society*, edited by Reinhard Bendix (Boston: Little Brown and Company, 1968), pp. 257-76; Harold Seidman, *Politics, Position & Power: The Dynamics of Federal Organization* (New York: Oxford University Press, 1970).
59. Guy Benveniste, *Bureaucracy and National Planning: A Sociological Case Study in Mexico* (New York: Praeger Publishers, 1970), pp. 44-62; see also Levy, *op. cit.*
60. Norton E. Long, "Power and Administration," *Public Administration Review*, Vol. 9, (1949), pp. 257-64. (Quotation from p. 262).
61. Lindblom, *op. cit.*, pp. 29-32.
62. A basic tenet of government and system organization increasingly is the importance of system flexibility in accommodating diversity – and diversity is the name of the whole enterprise in higher education. Hence the impelling need to always minimize the straitjackets that can be imposed by formal systems.

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4 FLEXIBILITY AND INNOVATION

Brian MacArthur

> Revolutionary changes are occurring of which even yet people are only dimly aware. Powerful forces are converging – an explosion of knowledge and population, a burst of technological and economic advance, the outbreak of ideological conflict, the uprooting of old political and cultural patterns on a worldwide scale, and an unparalleled demand for more and better education. (*1957 U.S. President's Committee on Education Beyond the High School*)

The 1957 U.S. President's Committee on Education Beyond the High School saw a "tidal wave" of students moving through secondary school in the United States. Universities and colleges at that stage were ill-prepared to meet it and only a few senior academic politicians realized that it existed. That they did meet it – so well that by 1976 more than eleven million students were enrolled in institutions of higher education – was a triumph of will and planning as well as innovation and flexibility. Of the twelve nations in this study, the achievement of the United States is obviously the greatest, and has occurred with arguably the least interference from the national government. Yet all the others – from Thailand, Japan, Mexico, and Iran to Sweden, Germany, France, Britain, Australia, Poland, and Canada – also adapted their systems quickly to meet the challenge arising in the late 1950s.

It was largely a triumph of managers and planners which ended with administrators assuming a preeminent role in both systems and institutions. As indicated by the ICED reports, most of the teachers were left suspicious and resentful of the power of bureaucrats to impose "reforms" and were often reluctant to make them

work. Indeed, innovation has largely consisted of new and grand and visionary ideas about institutions, methods of planning, and aims and goals (mostly arising from political rather than academic philosophy) rather than about *what* was learned or *how* it was taught. The latter concerns originated more from the teachers than the bureaucrats, and the reforms undertaken in this area were timid in conception and limited in achievement.

Across the world, capitalist or communist, rich or poor, the main impulse for change arose from an idea whose time had come and from demands for increased enrollment. Increased demand required innovative action to provide access for the hundreds of thousands of students qualified for the conventional elite university model. "Equality of opportunity" meant that some form of higher or postsecondary education had to be provided to the millions previously denied higher education only because of their sex, race, or class. When the opportunity was offered, they grasped it eagerly.

Aims and Goals

Aims and goals changed significantly. The main new themes arising were: equality of opportunity for all — literally "all," with Sweden awarding credits for life experience and Poland providing bonus marks to students of working class origin; an increasing emphasis on vocational training and degree programs specifically oriented toward careers; and a new emphasis on the right to life long or recurrent education. Such themes now find their place in the aims of all nations.

Yet in 1962, the Robbins Report in Britain, the most conservative of all the countries studied, stated only four aims: instruction in skills, promotion of powers of the mind, advancement of learning, and the transmission of a common culture. The ICED systems study on the United Kingdom reformulated Britain's contemporary aims as: [1]

- development of the individual student by a broad range of courses to suit specific abilities and interests (generalism);
- satisfying national needs for highly trained manpower;
- creation of new opportunities for underprivileged groups;
- the discovery and development of new knowledge; and
- service to society by direct response to social needs and the solution of current social problems.

How different they are now. There is much less emphasis on cultural aims and much more on broader courses, manpower training, underprivileged groups, and direct service to society.

Sweden, the United States, and Canada have probably formulated — and implemented — such social aims most completely. As our U.S. study indicates, social criticism, community service, and the educational needs of adults are now prominent goals, and access attends to geography, income, and barriers associated with social class, sex, race, creed, or national origin. Sweden has gone the farthest, to the extent of formulating a national Higher Education Law, which emphasizes vocational orientation in curricula, the importance of "life experience," and, uniquely, the internationalization of higher education, as well as the usual social goals. Mexico specifically mentions university extension courses as a means of raising the level of the population's technical understanding. Poland, our only example of a communist country, mentions political and civic education and preparation of the student for political activity. It is the only nation with overtly socialist aims among its national goals—and they are implemented in teaching and lectures.

Access

Student enrollments doubled, trebled, or quadrupled within ten years in all the twelve nations, most notably in the United States, Canada, Sweden, Germany, and France. Administrators and politicians defined the goals and universities and colleges achieved them. As Lyman Glenny indicates, at one point in the United States in 1968-69, over half the high school graduates and over 40 percent of the age group entered a college or university, while over seventeen million others enrolled in some adult form of postsecondary education.[2]

> As a result of ad-hoc planning and rapid training of thousands of faculty members, the system as a whole (but not each institution) was able to accomodate nearly every student who actually applied during the 1960s—an enviable record for the nation which seemed to believe that every young person required college experience.

In a flurry, new institutions were created — new universities in all countries, including nearly twenty in Britain, the community colleges in the United States and Canada, the thirty polytechnics in Britain, the University Institutes of Technology in France, and the Colleges of Advanced Education in Australia. Student aid programs were expanded and new legislation introduced to do away with discrimination. The results show clearly in all the country studies. The following are among the most striking.

United States. The federal government has insisted on policies to prevent discrimination in admission because of sex or race. Aid to students doubled to $4 billion between 1970-1977, mostly going to those from poor families. Another $1.1 million was dispensed by states. Federal antidiscrimination legislation prohibits state and local governments as well as institutions and individuals from preventing entry to higher institutions for reasons of race or sex. Universities or colleges are required by law to show how action is taken to prevent discrimination and to encourage access for women and minorities. The results have been remarkable. In 1977 the number of women enrolled exceeded the number of men enrolled and in the central and northeast regions the proportion of white and black age groups in higher education was roughly the same. The proportion of the eighteen to twenty-four year-old black age group enrolled increased to 13.2 percent in 1977. According to the Office of Education, blacks are showing greater staying power in higher education than whites. This is social engineering on a heroic scale. Moreover, apart from 11,200,000 students in higher education in 1975-76, another 17,300,000 were enrolled in recognized postsecondary schools taking such courses as languages, cosmetology, business, technical, trade, and correspondence work.

Iran. Iran is at the other end of the scale: it still sends thousands of its students abroad for lack of its own universities and colleges. Only 10 percent of the 45,000 students seeking admission to universities in 1968 could be admitted. Even so, enrollments are rising annually by 15 percent and the proportion of women is also increasing substantially — in medicine, from 32 percent in 1970 to 51 percent in 1977 and, in education, from 28 percent in 1970 to 52 percent in 1977.

Germany. In 1976, 13 percent of university students were from

working class families compared with 5.7 percent in 1966 and one in three were women compared with one in four in 1966. Students from working class families get 66 percent of the total aid though they represent only 13 percent of the student population.

Canada. In some provinces, university autonomy has been tempered since the government has decreed that community college graduates should be automatically admitted to the university of their choice. Automatic admission applies throughout Quebec province and for some courses in Alberta and British Columbia. Open admission is also a characteristic of many college programs. Mature students who have been at work for several years can be admitted even if they have not completed a formal secondary school course of studies.

Britain. There is slow but growing interest in expanding educational opportunities to mature students, based almost entirely, however, on the satisfaction of matriculation requirements. Some institutions are now admitting school leavers on the basis of an interview and school recommendation and several are now admitting mature students. (The Open University is considered separately.)

Australia. A notable emphasis on part-time and external study has developed. In 1976, 35 percent of university students and 40 percent of the students in colleges of advanced education were studying part-time. Technical and further education courses are offered in 800 locations by 180 institutions and nearly 700 affiliated branches or annexes. Almost 650,000 students are enrolled in over 2,000 different courses ranging from twenty-five to 4,750 hours of study. More than 90 percent of the enrollments are in part-time or correspondence courses and two-thirds of the students are over twenty-one years old. As a percentage of the adult population, students in technical courses represent 4.22 percent compared with 1.49 percent in universities and 1.26 percent in advanced colleges. At universities, the number of women has increased at almost twice the rate for men. Among students starting university courses in 1975, 43 percent were women; in the advanced colleges, 56 percent were women.

Sweden. Sweden has the most advanced or radical mix of access policies in Western Europe. Sixty-two percent of the students are now over twenty-five years old compared with 17 percent in 1968. Forty percent of new adult entrants were admitted under rules

which allow persons twenty-five years old, who have worked at least five years, to study some subjects, mainly in the humanities. One in three of all students are studying part-time. As the Swedish report puts it:[8]

> A general idea behind the reform of admission regulations is that real competence should be the deciding factor, not formal education.... The local board of higher education can decide that some students are to be selected according to individual needs....There is room for positive discrimination according to social criteria. Following this selection, the rest of the applicants for independent courses are put in three quota groups, according to whether they have formal education or work-life experience as their chief merit.

Poland. After university entry examinations, there is an eliminating stage, when the children of peasants and workers get three additional points to improve their chances against children from higher social classes. About 37 percent of the students are adults.

It is clear that similar innovations were used throughout the world in the 1960s and 1970s to give some genuine meaning to the slogan, "Equality of Opportunity." As we move toward the 1980s, however, several countries are introducing still stronger measures to expand educational opportunity and are putting real administrative muscle into their efforts. Equality, in this phase, is moving out from the institutions and into remote areas. The innovating theme is "distance learning," an extension of the voguish concept of lifelong learning (also known variously as adult, recurrent, or continuing education, or *education permanente).* The three "Ls" are replacing the three "Rs."

The Open University in Britain has been the acknowledged leader in pioneering distance learning. Its example has been envied, copied, adapted, and used throughout the world; and it may prove to be an especially valuable technique in the Second and Third Worlds. It was arguably the single most dramatic innovation of the 1960s. The university is nonresidential. All the students are part-time, mainly adult, studying at home with the help of courses on national BBC radio and television, courses sent through the post, essays mailed back to tutors, local study centers, and a two-week summer school. Six credits are required for an ordinary degree and eight for honors, students usually complete one credit a year. It is financed directly by the government; its degrees have been accepted

as comparable with those of the conventional universities, and it has nearly 50,000 students. It is also contributing to innovations in other institutions. Some use Open University courses for their own students and several universities and colleges accept OU credits if those students wish to transfer to orthodox higher education. The university has also moved into providing short courses and short post-experience courses for adults. Staff from the Open University are now advising several other nations, including Iran and Australia. The question for the 1980s is whether this concept can be extended into "open colleges."

Several other countries in this study are also experimenting with television or other media, among them the United States, Mexico, Canada, Japan, Sweden, and Australia. In Canada, Quebec University has the *Téléuniversité*, identified by the Council of Universities in 1973 as one of its main experimental operations. As the Canadian study explains, its title is etymological — "education at a distance" — and television itself plays a small part in its activities, accounting for less than 8 percent of the university's activities in 1975. Using existing resources, it has aimed primarily at adults and has been particularly active in providing refresher courses for mathematics and French teachers. The Ontario Educational Communications Authority, now a provincially appointed autonomous agency, supplements the services of institutions and offers programs to broaden the general education of the public. It also provides videotapes and films to colleges and plans programs which can be used to supplement official courses.

Japan is adapting the Open University approach. The Ministry of Education and the Broadcasting Corporation are organizing a university offering courses on radio and television. After a nationwide survey, a Study Committee for the Establishment of a Broadcasting University suggested that some 450,000 students would use the university. A bachelor's degree will be awarded after five years of study, supplemented by some institutional instruction and an examination.

Distance or extension education does not demand the use of television, though it helps. As Sweden and Australia show, this type of education is simply an extension of a university's activities into areas where there are no institutional arrangements. Sweden has university study circles, which follow university curricula, ninety-four decentralized university courses in twenty-four cities, and, under the

new Higher Education Law, it provides extension education in which students work at home, have mail or telephone contact with tutors, and attend an institution only on a few weekends. In Australia, a proposal for a National Institute of Open Tertiary Education has not been adopted by the government, but it has encouraged several universities to expand their programs for external students.

Growth of Government Intervention

Political parties in democracies want to gain and hold power. Millions of disgruntled parents will vote against them if their sons and daughters are denied their "right" to higher education. So governments, believing in equality of opportunity, have moved decisively into the governance, management, and planning of higher education. Governments created flexibility, when faced with institutional inertia, created new institutions when the orthodox refused to move, sometimes offered carrots as in the United States and Canada, but often wielded a big stick, as in Sweden, Germany, and France. On the way, they created a vast educational bureaucracy and entrenched the administrator as a new power in the academic land. Yet governments offered money—and no educational systems wanted to resist, only to keep the hand that offered it at a distance. It also has to be said that governments in all countries, rather than institutions, have been the biggest benefactor and advocate of the rights of the poor, the working classes, women, and other groups who have traditionally been denied equal educational opportunity.

Three types emerge among our twelve nations: those whose government was always in charge, such as Iran, Mexico, Thailand, and Poland; those whose government has mainly assisted institutions without imposing detailed national plans, such as the United States, Canada, Britain, Australia, and Japan (although the U.S. passed legislation for equal access); and those continental European democracies, whose governments have decreed and imposed major reforms on universities and colleges, such as France, Germany, and Sweden.

Iran, Mexico, Poland, and Thailand

As Jan Szczepański has explained, East European societies are political societies. All spheres of public life are regulated by centralized economic, social, and political planning.[4]

> Higher education is part of the political system. It is therefore a political force and a political institution. It has been given precise political tasks. It is also part of the economic system. It has to fulfill a very precise economic goal.

In Thailand all curricula have to be approved by central agencies and each institution is an integral part of government. When the National University Council was established in 1956, its chairman was the Prime Minister. When it was transformed into the National Education Council, the Prime Minister was again chairman and its membership included the deputy prime minister, the director of the Budget Bureau, and five other cabinet ministers. Since then the council has been placed within the Office of the Prime Minister as has the administration of all degree-awarding institutions.

In Iran, the Shah is himself chairman of the Imperial Council on Education, and the Ministry of Education and Ministry of Science and Higher Education have created councils which oversee all aspects of educational policy. As a result of a 1973 Imperial decree, education is now free-of-charge for all qualified students.

Mexico provides a somewhat different and more complex setting for its higher education. The concept of autonomy* has been defined by the legislation creating the "public autonomous universities" which are separated from the government and have full legal powers. Other public institutions have less autonomy, and some are directly dependent on government — federal or state. New programs in private institutions must be approved by the designated government agency for validation. So, although the degree of its influence varies, the government is omnipresent in the Mexican scene.

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*See the concept of autonomy in: Alfonso Rangel Guerra, Systems of Higher Education: Mexico (New York: ICED, 1978), Introduction, and pp. 5-6. (ed.)

United States, Canada, Britain, Australia, Japan

All these five countries had sophisticated if elite systems of higher education before the avalanche of the sixties and all adapted remarkably well to meet the administrative challenge of the post-World War II baby boom. All our studies, moreover, suggest that the reforms, at least in retrospect and in spite of resistance from academic establishments, are now considered beneficial, especially when set against the newly formulated aims and goals of the sixties.

Japan has a highly centralized system with the government actually administering the public institutions through the Ministry of Education. The ministry appoints senior officials and all staff at the public institutions and designates a ministry representative for each university. Systemwide planning was formalized for the first time in Japan in 1974, with the creation of the Ad-Hoc Study Committee. In 1976, the ad hoc committee was disbanded and replaced with a permanent planning agency, the Sectional Committee for Higher Education Planning. Under the new committee's guidance, plans for shortened vocational programs, extension courses, geographical dispersion of institutions, and enrollment quotas are being implemented.

The major change in Britain was to place the ultimate budgetary control of universities in the Department of Education and Science instead of the Treasury Department. This meant that universities' budgets were considered, probably to their detriment, alongside national plans for schools, colleges, and polytechnics. The government also encouraged developments in universities, expressed views on their performance, and set up institutions to rival them and to pursue more vocational aims (which are considered later in this study). It did, however, maintain its renowed "buffer" between state and universities, the University Grants Committee (UGC), an example emulated both in Australia and Canada.

Australia elaborated on the British model. It set up a Universities Commission, a Commission on Advanced Education, and a Technical and Further Education Commission. The federal ministry announces allocations to each commission, as well as guidelines for their triennial programs. The federal ministry has, however, increased its influence or control by insisting on detailed plans from

the commissions to ensure that there is "systematic and rational" forward planning in line with the government's economic plans. Recently, a unitary Tertiary Education Commission was established. The members of the commission include representatives from the Universities Commission, the Commission on Advanced Education, and the Technical and Further Education Commission. The new commission will undoubtedly influence the minister's decision on guidelines and other issues will receive much closer scrutiny and coordinated planning.

What has happened in Canada and the United States is of particular interest both because of the size of their systems, their more grandiose aims, and the delicacy of the relationship between their federal governments and the states or provinces.

Ontario, Canada's largest province, established a liaison with universities in 1951, but its first advisor, a retired academic administrator, was "too gentle to crack the whip." The government appointed a succession of bureaucrats and politicians until it eventually became a University Committee and is now, again on the British UGC model, the Ontario Council on University Affairs. As B. B. Kymlicka nicely and sardonically puts it, the search was for an impartial buffer:[5]

> The quest, of course, was for a mythical beast, though the myth that sustains it is a useful one and provides the necessary rhetorical justification for the institution's reluctance to surrender whatever remains of their independence. By the same token, it allows the government to direct policies without being formally responsible for the consequences.

(Many in Britain would agree.) Such intermediary bodies, with strong financial powers, now exist in eight Canadian provinces. As Edward Sheffield notes, there is a simple correlation (true in every nation in this study) between increases in influence and increases in public expenditure, with pressure aimed primarily at rationalization of the use of space and the provision of courses but now increasingly impinging on research: "Universities are being urged to define their roles and the government department both prods and supports them in this endeavor."[6]

The term higher education entered the titles of federal legislation in the United States only in 1963 with the passing of the Education Facilities Act. It was followed by another act of the same title in

1965. Yet as David Henry notes in his study, the federal government has not had and does not now have an overall policy for direct non-categorical federal involvement in higher education. So planning for future development, which might be justified in view of the total support given and sought for higher education is not expected. Steps toward the formation of a national policy have been seen in some of the provisions of the 1972 Amendments to the Higher Education Act but they have not been fully funded. Henry suggests, however, that the 1972 legislation strongly implies that the federal government should accept some responsibility for the financing of higher education beyond student aid and research and that this will be an important issue in the future. He adds:[7]

> The federal involvement has nevertheless been of tremendous assistance to higher education institutions in carrying out their collective mission. The academic research establishment, for example, has been enlarged and strengthened. Financial aid to students — in gigantic proportions — has widened the enrollment base and dramatically extended educational opportunity. Specific aspects of institutional performance have been enhanced — the physical plant, libraries, study centers in designated areas, such as international education, the health professions, teacher education, the international exchange of students, public health training, to name a few. We should also mention the Fund for Improvement of Postsecondary Education, which has encouraged experimentation in significant ways. With all of the criticisms of the inconsistencies, inadequacies, unfairness, unequal distribution of federal support, and of the intrusiveness of "federal control," it is generally believed that the federal actions have been of benefit to the "system" and have well served the national welfare. However, none of these efforts has emerged from any comprehensive national planning or indeed with much assessment of the impact of the federal involvement upon the institutions aided.

The states (often responsible for systems as big as those of Britain, France, or Germany) have paid more attention to planning either through the state coordinating or state governing board for higher education, and there has also been closer involvement with legislatures, outside consulting firms, and governor's commissions. Using constituency involvement (faculty, administrators, students, and citizens) the states are making tough decisions. The agencies

themselves often enforce the provisions of their plans, in cooperation with the institutions and with the very real but often unstated backing of the governor and the legislature.

Another significant development arose from the 1972 Amendment to Title XII of the 1965 Higher Education Act. It authorized the designation of a new or existing state agency to receive and distribute funds for comprehensive statewide planning for post-secondary education, as well as community colleges and occupational education. Since 1974, forty-six states have taken advantage of such funds. According to Shea, the most striking shift in the distribution of power since the early 1960s, according to many observers, has been toward these "superboards," state legislatures, and governors. By 1975 twenty-two states had consolidated governing boards, of which thirteen were responsible for coordinating all or a substantial portion of the public institutions of higher education. Another twenty-eight states have state coordinating agencies, two-thirds of which have important regulatory authority. So institutions in the United States are not *quite* so free from control as they sometimes seem.

France, Germany, Sweden

The United States still seems very free in contrast to continental Europe, where the governments of France, Germany, and Sweden have taken firm control over the direction of the organization of higher education. Apart from the sweeping reform of courses after the student riots of 1968 (discussed in the next section), the French government decided to separate higher education from the Ministry of Education. In 1974 it created the new post of Secretary of State for Universities,* with authority over 110 institutions, including seventy-six universities and the Collège de France. According to Alain Bienaymé, however, successive secretaries of state have failed to reform the structure of higher education, in particular the *grandes écoles* and the administration of research grants. Bienaymé also suggests that the new office has proved to be a "gift of poison" for the universities, in that the minister for schools inevitably carries more political clout than the minister for universities. Some of the authoritarian flavor which inspired the reform can be detected in a

*Source: Jean-Pierre Pellegrin, "Quantitative Trends in Post-Secondary Education, 1960-1970," *Towards Mass Higher Education: Issues and Dilemmas* (Paris: Organisation for Economic Co-operation and Development, 1974), Table 12.

statement by the Secretary of State in 1976: "For ten years things have been out of control and allowed to go according to individual whims. *It is time to see that universities are run more rationally.*"[8] Acting on this aspiration, the ministry has introduced a new system for the allocation of funds. It also introduced changes in admission procedures; ministerial regulations now allow students to be distributed to make the "coordinated development" of education and research easier.

The Federal Republic of Germany has become much more closely involved in the planning of higher education than its counterparts in Canada and the United States, although developments in the Länder are similar to those in the states and provinces of North America. Its point of entry was the constitutional maxim that there should be a uniform standard of living throughout Germany. The Basic Law was therefore amended in 1969 to allow for common tasks undertaken by the Bund and the Länder. Among the tasks agreed to were outline planning for the expansion of higher education and the advancement of research. The Bund was also authorized to issue outline regulations on the general principles that should apply in Germany's higher education.[9]

> One purpose of the amendment to the Basic Law of 1969 was the intent to lay the foundation for a coordinated development of the system of higher education. The resulting planning tasks are wide ranging, from the "decreed" study reform to new admission policies, the determination of educational capacity and focal points of research, to the planning of construction, equipment and personnel, as well as the financing of these matters. A meticulous system of planning procedures and mechanisms has been worked out in order to institutionalize comprehensive planning at all levels.
>
> The basic elements for the system of planning were put into law in the Frame Law for Higher Education of 1976. The Frame Law for Higher Education calls upon the institutions of higher education to set up "development plans" which are to cover a time span of several years and be progressively extended. These development plans must specify the functions and the projected development of the specific institutions in the areas of research, instruction, services, and administration.... The requirement to furnish plans

listing the needs of the lowest levels of administration brings in an entirely new aspect of managerial efficiency. These plans are to be structured in such a way as to allow a specification of costs arising in individual courses of study, as well as an interinstitutional comparison in this regard. The Land is to establish general guidelines for this procedure. The development plans are the groundwork for the Land's comprehensive planning in the field of higher education and for the determination of the number of students to be admitted. After consultation with the institutions, the Länder are to work out "a comprehensive plan for higher education. . . ."

At the Länder level, systematic planning began during the 1960s. Several other Länder now have their own comprehensive plans and all the ministries of culture have educational planning departments. In principle, as the German report makes clear, individual Länder are free to plan new institutions without referring them to other Länder or the Bund. Yet the new power of the Bund is shown by the fact that if the Länder do act independently, they get no financial support. A federal-state commission has now prepared a comprehensive national plan for the development of higher education, which specifies such detailed goals as the proportion of the age group entering universities, the distribution of students in three-and four-year courses, and staff-student ratios. A four-year development plan is also required by national law.

Although the federal government in Germany has asserted a special interest in the development of higher education, its system is still relatively similar to that in Britain where the universities' own guardian, the UGC, has imposed "norms" and "ratios" which have the same controlling power as those in Germany.

It is Sweden that we have to study for the most advanced system of direction and control in a Western social democracy. As of 1964, the Office of Chancellor of the Universities became a state agency, with the chancellor, as the Swedish study puts it, "'director-general' in all but name." Rather than being appointed by university rectors, moreover, he was to be appointed by the cabinet and governed by a board of laymen. A bureaucratic organization was also applied to institutions: teachers were to teach, researchers to research, and administrators to administer. Overnight the number of bureaucrats at Stockholm University doubled until there were fifty in the mid-

1970s. All this was part of Sweden's policy for a single comprehensive system of postsecondary education, which would reduce status differences and satisfy the requirements of — here comes that word again — "rational" planning. This aspiration for a nonelitist system was elaborated in the report of the 1968 Educational Commission (U68), which was published in 1973, accepted by the Swedish parliament and government in 1975, and implemented by law on July 1, 1977. The two most interesting features of the reform are its provisions for the government of institutions of higher education and for participatory democracy in that government, expressed by some as nothing less than the politicization of universities and colleges. Among the notable features are:

— All higher education in one area is brought together in one administrative unit, described as a university or *hogskola*.
— There is a conscious effort to decentralize authority, chiefly for curricula and budgeting to six regions of higher education, each a replica of the national board.
— There is an asserted "public interest" in higher education. Fourteen of the twenty-one members of the regional boards, appointed by the government, represent the public interest and three of the members representing higher education are nominated by Sweden's three big trade unions. There are also two student representatives.
— There is a trend away from a rather tight rule of professional oligarchs toward a system marked by participation of literally all groups of any significance. At the departmental level power has been transferred from the chairman to a board representing teachers, students, and administrative and technical staff. Educational committees were empowered to make decisions of their own on curricula and the organization of studies, instead of being advisory bodies to the faculties. In the least radical model, teachers and assistants were in the majority; in the most radical, students were the majority. On the main board of each university, moreover, six members represented the public interest, three the unions and three the students, (out of a total of eighteen).

As is clear from this account, Sweden has gone in for social engineering on a scale far beyond any other Western nation. Whether it will work effectively, whether governments can force universities to obey their will still remains debatable.

Institutional Innovations

The boldest and most original innovation of the past twenty years, displaying the occasional flair of administrators at its best, was the creation of new institutions, new both in concept and in the range of opportunities they offered students. They were often created for negative reasons, either to save elite institutions from being swamped by students or because elite institutions were unwilling to take on the new tasks that governments wanted performed in higher education. The new institutions were, however, the gateway to mass higher education and made it possible. As Clark Kerr has said:

> When I was guiding the development of the Master Plan for Higher Education in California in 1959 and 1960, I considered the vast expansion of the community colleges to be the first line of defense for the University of California as an institution of international academic renown. Otherwise the university was either going to be overwhelmed by students with lower academic attainments or attacked as trying to hold on to a monopoly over entry into higher status. (*Speech at Uppsala University, 1977*)

Saving and preserving the elite university, however large some became, meant creating nonuniversity institutions. Only one country, Britain, created a new generation of universities. Britain, however, also followed the example of the United States and Canada, as did Japan, Australia, and France in establishing new "comprehensive" institutions, usually called colleges but in Britain named polytechnics and in France called institutes. In the comprehensive institutions, students could study full-time or part-time. A variety of courses and lengths of study were offered, and the colleges were usually a ladder to higher education as well. In California, for example, every high school graduate was guaranteed a place in a community college, and college graduates were given preference in transferring into the university; this plan has recently been reaffirmed for another fifteen years. Two-year colleges have become the fastest growing type of institution in the United States. Public two-year institutions, which enrolled 10 percent of the 2.7 million degree-credit students in 1955, accounted for a quarter of the 9.7 million degree-credit enrollments in 1975.

Another innovative pattern that has emerged in the United States is the multicampus system (which also includes some community colleges); more than 250 institutions are now branches of multicampus systems. California is again the best example. Its state university has eight campuses. The fourteen state colleges are joined under a single board and a unified central administration, and the junior colleges are also organized within a statewide structure. Variations on this theme exist throughout the country. Commentators seem to agree that such systems promote flexibility as well as improved institutional planning in such areas as student expansion, new programs, distribution of faculty, student mobility, and collective bargaining.

Canada developed on similar lines, particularly in Ontario, Quebec, and Saskatchewan. Although they were only introduced in the mid-1960s in response to dramatically rising student demand, there are now more community colleges than universities, though they enroll only about half as many students. The Canadian community colleges tend to be vocational institutions but some offer courses leading to university admission. In Ontario, they were established to meet three purposes:

- to offer courses of types and levels beyond, or not suited to secondary schools;
- to meet the needs of graduates from any secondary school course, apart from those wishing to go to university;
- to meet the educational needs of adults and out of school youth whether or not they were secondary school graduates.

There are now twenty-two colleges of applied arts and technology, some with several campuses in Ontario.

Starting one year later, Quebec was perhaps even more ambitious. It created a continuum of institutions, beginning with a six-year primary school, a five-year secondary school, and for all students wishing to study beyond secondary level the College of General and Vocational Education (the CEGEPs). Students can choose either two-year general programs, the regular route to university, or three-year vocational programs leading to employment. There is no other regular route to university. One of the notable features of this kind of continuum, as Edward Sheffield points out, is that any tendency for the CEGEPs to aspire to university status is effectively checked. Saskatchewan has created another system of community colleges.

Actually, they are programs rather than institutions, designed to meet the needs of adults, which are determined community by community. These colleges do not have any permanent facilities. They either rent space or use facilities which have been donated by the community, and the faculty teach on a part-time or temporary basis. Again, quoting Edward Sheffield:[10]

> Altogether these institutions offer a bewildering array of courses, from the most practical to the most esoteric, undertaken on a full- or part-time basis, for credit or no credit, in institutional settings or at a distance, and using an increasingly wide range of instructional techniques and media. The characteristics of students also vary. While the majority are fresh from secondary school, increasing numbers of students are enrolled in correspondence courses, or are working and attending night school, or are retired and attend adult education classes. The latter clearly indicate the trend toward lifelong education programs.

Japan has also set up two- and three-year junior colleges, emphasizing practical professional education and has boosted its specialized vocational schools.

Britain, France, and Australia, on the other hand, created new institutions of higher education, as opposed to postsecondary education. (Britain, of course, had a well-established system of further education on junior college lines.) Britain created thirty polytechnics, by amalgamating institutions of art, commerce, and technology, and gave them the task of becoming degree-level, vocational institutions, offering full- and part-time courses, as well as subdegree work. This was a deliberate attempt by the British government to counter the concept of universities as ivory towers. Similarly, France created the University Institutes of Technology and Australia its Colleges of Advanced Education.

As we have already observed, another route to mass higher education is being tried in Germany and Sweden — the comprehensive university. Under the comprehensive approach, all institutions of postsecondary and higher education are placed within one system, in contrast to the "dual" system favored in Britain. Whether Germany will fully accept the model of the comprehensive university still remains open to doubt, however. As originally outlined by the federal Conference of University Assistants, the proposal was to abolish the hierarchy of degrees, modify the gulf between

academic and practical programs, and abolish the hierarchy of faculty and institutions. An earlier plan by Ralf Dahrendorf proposed an expansion of vocational programs at *Fachhochschulen*, the introduction of three-year courses at universities, and a concentration on teaching rather than research. At present, however, the German law on higher education allows two options — the integrated or the cooperative comprehensive institution:[11]

> Current developments range from: comprehensive institutions in which the Länder have combined regionally scattered institutions into planning units without any visible efforts toward cooperation; genuinely cooperative comprehensive institutions with joint programs, but different internal structure and hierarchy; and comprehensive institutions founded since 1970 which are based on various integration models. Comprehensive institutions in North Rhine Westphalia, for example, are based on the so-called "Y" model. Comprehensive institutions that follow the "Y" model have two-year integrated primary courses for students and faculty of the various types of institutions. This primary course is followed by programs which are differentiated according to the traditional manner into one-year practically oriented specialized programs and two-year theoretically oriented programs, the choice of which is generally determined by performance in the primary course. Hamburg intends to apply the "consecutive model" according to its preliminary deliberations for the integration of its institutions of higher education. This model calls for a joint three-year program for all students, ending with the first examination that qualifies students for their professions. More examinations are planned after four and six years of study.

According to the Germany report however, the future significance of the comprehensive universities is questionable:[12]

> In general, the model of a comprehensive institution has lost political support, even though it has only recently been stipulated in the Frame Law for Higher Education as a basis for future development. Apart from the newly established institutions, it is doubtful whether it will be effective as a guideline for the reorganization of the existing system of higher education.

On the evidence of the ICED studies, it seems that the rich mix of institutions encouraged in the United States, Canada, Britain,

Japan, and Australia has been more effective in helping students than the increasingly uniform systems in Germany and Sweden.

Innovation in Teaching

What students learn, how they learn, and their success in learning is what, of course, higher education is all about. Institutions and governments may envision plans and make their dreams come true, but their visions are not worth a candle if students fail to learn or receive a low quality education. None of our studies, with the notable exception of Britain and, to some extent, Germany, has managed to determine what has really occurred in the past twenty years within the classroom, perhaps because what goes on in the classroom is still, thankfully, beyond the reach of governments, visionaries, and bureaucrats. As the British report explains, innovation in teaching is "localized, uncoordinated, lacking much clear pattern, and largely undisclosed, rather than reflecting the grand design of some central planning agency. It springs from domestic circumstance rather than political injunction."[13]

However, as the British report explains, there are many reasons why innovations in teaching should and do occur: survival, as in the case of the classics, where classicists had little choice between innovation and immolation; initiatives made to attract students, as in the case of chemistry during the world-wide swing against science in the sixties; or competition with rival institutions with new courses offered as adventures to adventurous students. There is also, of course, no moral imperative that there should be innovation for the sake of innovation.[14]

> If a particular course is attracting a large surplus of good, well-qualified applicants, and the teachers responsible for that course are well satisfied with it, then they should not be expected to tinker with it merely at the behest of an educational television fanatic, a self-instruction enthusiast or an eager advocate of performance contracting — any more than most of us would change our jobs merely as a result of the advocacy of an employment bureau....If well-established departments and institutions often appear to be staid and conservative, it may well be because a natural corollary of satisfaction with one's own status is satisfaction with the status quo.

The British report argues strongly that the main obstacle to innovation in teaching and learning is the reward system in academic life, since promotion is still largely based on research and publication. It is a point that is echoed in both the Swedish and the United States reports. Lyman Glenny, from the United States, suggests that without strong support from a top administrator, especially the president, an innovative program has little chance of approval and even less for a long-term commitment of funds. The British report aptly explains the reasons behind the reluctance of teachers to innovate in the United Kingdom:[15]

> To expect academics to commit themselves to a package of interdisciplinary teaching is in effect to ask them to act as missionaries in a foreign land from which return home is difficult if not impossible; to ask them to abandon research in favor of teaching is to ask them to take a substantial cut in their chances of career mobility; and to demand that they should put major efforts into curriculum development is akin to requiring them to devote a much greater amount of time to their unpaid leisure activities. Many academics are prepared to do these things, and it is to their credit; but until the system of career currency in higher education changes, or is changed, it must remain unsurprising that new institutions based on the abandonment of traditional subject boundaries will gradually if surreptitiously revert to the discipline-based norm, and that teaching approaches that call for demanding and time-consuming development work will not be adopted with unreserved enthusiasm.

Yet there has been some reform of teaching methods in all countries and it is worth noting some of the examples.

Sweden experimented with the concept of a university department as a unit of education and research. (An old idea in one country may be an innovation in another.) As a result of national reforms, the departments have also placed more emphasis on undergraduate teaching. A new position of university lecturer with no research duties was created. The "new" system of higher education is founded on three types of study: general programs reflecting the basic and enduring educational needs of society based on the labor market; local programs reflecting local needs; and individual study programs. There are also independent courses.

Japan has introduced interdisciplinary courses, basic courses for new entrants, and a somewhat more flexible system of options. Seminars, group tutorials, and field surveys have been added to lectures at the request of students.

Mexico has also experimented with the departmental system — though, apparently, it has not worked — as well as with general "core" programs, interdisciplinary studies, and shorter degrees combined with credit units. Thailand has also introduced more foundation and elective courses.

France has tried to introduce a root and branch reorganization of its awards based on cycles of study. A Diploma of General Studies is awarded at the end of the first two years of university studies. The *maîtrise* follows after another two years at the end of the second cycle. Another year leads to the Diploma of Advanced Studies. This degree is intended as preparation for a thesis for the Doctor of State degree, which is required of future university teachers or researchers, or the Diploma of Specialized Higher Studies (which is usually followed by the preparation of a thesis for a doctorate of the third cycle and requires knowledge related to a specific professional context). The official motivation for this reform was that many students could no longer expect to find jobs in traditional areas of employment. A 1976 regulation urged universities to reorganize studies and create new courses more relevant to the nonacademic labor market. The regulation indicated that the new degrees of the second cycle would be national degrees, but no more money was given to universities to help implement the new law. The proposals led to strikes in fifty universities; 60,000 students took their examinations several months late and a later ministerial circular allowed universities to keep their existing programs. Yet the innovative effort was not totally in vain. There is an increase in vocational courses in all three cycles. In 1977 universities offered 182 different types of professional diplomas in the second cycle, characterized by a greater emphasis on instruction by professionals from outside the universities. Their output was equal to 10,000 students a year and greater than the number of engineering and masters' diplomas in science.

As in France, much of Germany's effort to innovate has also involved inserting more practical subject matter into courses, particularly in law, medicine, science, and engineering. It has also introduced interdisciplinary courses — for example, combining

political science and public administration to prepare students for careers in public administration and trade, previously the preserve of law graduates. Experiments with new methods of teaching include tutorials, orientation courses for new entrants, the use of socially relevant, interdisciplinary projects, and all-day intensive courses. The Federal-State Commission in Germany has also initiated more than forty pilot projects developing the use of media, extension courses, integrated programs for architecture and technology, and the education of teachers.

In the United States, the federal government created the Fund for Innovation in Postsecondary Education in 1972 and it has spent up to $12 million a year priming projects initiated by institutions. Various foundations have also provided significant support. One outstanding example is the Ford Foundation which gave millions of dollars for experiments with television as a delivery system for education. Much of what is done through television today for higher education can be traced back to this daring innovation.

Britain's aptitude for invention is displayed in many of its innovations in teaching methods. Two new medical schools, for instance, have adopted a systemic, integrated approach to medical training and an early introduction to clinical work. At least three universities provide interdisciplinary studies in all their programs. Others have tried schools of study instead of departments. At least one polytechnic has introducted a degree program based on "modules" similar to American credits. Some are also experimenting with independent study. The British report identifies three levels at which innovation occurs: within the classroom; at the level which determines the structure of curricula; and at the institutional level.

Within the classroom, the report notes an increase in the use of student projects or dissertations, more emphasis on coursework assessment rather than total reliance on examinations, and more seminars replacing lectures. In terms of curricular structure, it reports diversification into unit-based modular degrees, and a significant increase of interdisciplinary or combined degrees. In spite of efforts by foundations, notably the Nuffield, and even the UGC the report states that institutional innovation has been relatively neglected in the United Kingdom. Attempts to introduce systematic training for new lecturers, for example, have made little impression.

There have also been big failures. In spite of official sponsorship, educational television has so far failed to make any significant impact in the United Kingdom. The new universities which were expected, as one academic put it, "to redraw the map of knowledge" have modified the map without significantly altering the landscape. Similarly, the Colleges of Advanced Technology and the polytechnics proved more anxious to establish themselves as universities or university-level institutions than as innovating pioneers. The academic gold standard which these institutions felt impelled in British circumstances to choose is identified as another constraint on new developments — though the report shows that there is now a sports science degree at a polytechnic and a viniculture degree at a university.

One other British innovation deserves mention. Most countries have introduced systems under which proposals for new courses are vetted or moderated by an external body. In Britain it is the Council for National Academic Awards, established by the government and staffed largely by academic peers.[16]

> Every new course offering...is scrutinized by a carefully constituted panel set up for the purpose. Panel members — there will usually be somewhere around a dozen depending on the particular case — are drawn from universities and other polytechnics in the relevant subject fields. There will also be one or two academics from neighboring disciplinary areas, and one or two well-informed outsiders from industry and the like. Each panel member will have very full documentation about the course, often running to between 100 and 200 pages; less importance is attached to the actual list of syllabus contents than to the overall aims of the course, the teaching approaches envisaged, the proposed forms of assessment, the back-up in the way of library resources, the way the whole design holds together, and above all the likely competence of the staff concerned to make a success of the enterprise.
>
> The CNAA Panel makes at least one 'site visit' lasting a whole day (sometimes more than one) to cross-examine the course team concerned with the proposal and to look at the institution and its relevant facilities. Where it is not satisfied on a particular point it may designate a subpanel to make a subsequent revisit, or may call the proposers to a meeting in the CNAA's London headquarters. It may eventually accept the proposal, decline it, or refer it back for subsequent resubmission when various key points have been taken into account.

Variations of this system, one of the most important innovations in the history of British higher education, exist in Thailand, France, Australia, the United States and Canada (although in Quebec and Ontario, the final decision is made by the provincial government). The aim is to avoid duplication of courses and to ensure that institutions have the capacity or potential to offer their new programs. Such systems, of course, amount to guarantee of quality to the consumers — the students.

Plus ça change?

Institutions of higher education have been through twenty years of upheaval, expansion, and transformation: even such world-famous elite institutions as Oxford, Cambridge, the Sorbonne, Bologna, Yale, and Harvard felt the tremors. Yet has any transformation occurred at the most intimate level of higher education — in the relationship between teacher and student? There are encouraging signs that it has not; and there are also encouraging signs, amidst a certain weariness of spirit in senior common rooms about grandiose government plans for reforms, that the will of governments, however amiable and however just, cannot ultimately reach down into the classroom. It can build classrooms but it cannot decree what is taught. Though they accept the need for expansion and change, all the studies suggest that some things do not change and, indeed, cannot be changed.

For instance, Sweden has succeeded in enrolling more working class students — now representing one in five of all students. But it has found, seemingly to its horror, that the upper class still participates in higher education to a much greater extent than other social groups. The upper class is also "grossly" overrepresented in the institutions that lead to the best paying jobs. Nevertheless, government will can be effective. "If the new rules of admission had not been introduced in 1969, the share of workers' children would actually have decreased among new entrants."[17] The Canadian report also notes that in spite of efforts to improve the situation, members of the more fortunate socioeconomic groups tend to predominate in postsecondary institutions, even those devoted to adult education: "Although this is a matter of much concern it seems likely to continue."[18]

In Germany and France, on the other hand, students have often led the opposition to government-inspired reforms, in France against the second cycle and in Germany against shorter degrees or the *numerus clausus* policy of restricting entry to popular courses. German universities are also "so overburdened" with responsibilities that there is hardly any spirit for innovation left and three-year degrees are still considered "foreign."

In spite of the Mexican government's efforts over twenty years to encourage staff to work in the rural areas, faculty have shown "remarkable tenacity" in staying in the major cities, not only because of the prestige associated with them but also because of the opportunities for second incomes. Canada reports a growing disenchantment on the part both of staff and students with participation in institutional government — and this trend is evident in other countries as well. In Poland, curricula are established by a central agency, but nobody really controls how or what professors teach, and, in fact, teachers and students have strongly resisted new or more vocational courses.

Alain Bienaymé notes substantial disillusion with the French reforms, particularly as they affect the university:[19]

> The French university has not succeeded in freeing itself from the accusation of pedagogical conservatism, and the central administration has hardly succeeded in effecting incentives to innovation. Thus, A. Touraine notes harshly that the university is mainly confined to a role of transmitting knowledge, "to teach what others discover rather than to discover what others teach," in the words of M. Laborit. Throughout its history, the university has all too often missed its chance to innovate. Major innovations such as the Collège de France, the Museum of Natural History, the Ecole des Hautes Etudes, the Centre Nationale de Recherche Scientifiques, and continuing education, have all taken place outside the universities. Such a tradition, rooted in a period when, according to Touraine, social demands for education, the transmission of knowledge, and the creation of knowledge were still converging, is even more of a problem at a time when, with the democratization of higher education and the increasing complexity of needed technical skills, these three tendencies are diverging (with the exception, it seems, of the hospital-university centers).

> ...Public opinion, sensitive to simple criteria, is led to look more favorably upon the IUTs (Instituts Universitaires de Technologie), which are selective, than upon the many unselective universities. The university, which has, as its primary task, the development of our literary and scientific heritage, finds itself forced into a "corner where it is permitted to temporarily solve the unemployment problem."...The fate of students eliminated in the first and second year of university study will continue to be disturbing. Such are the vicissitudes of a university "open" to the masses but still remembering the days when it educated the elite.

Neither, Bienaymé adds, does the "defensive and guarded" attitude of the unions or self-interested faculty foster pedagogic imagination. The conclusion he draws after a survey of opinion expresses a certain world-weariness:[20]

> Nobody seems to think much of the state of things before the crisis but neither is anyone satisfied with the present situation. Some people — the most optimistic and progressive — argue that after all, things are better today than yesterday; and others argue that in any case, things being what they are, one must make do with what one has.

One other persistent theme is the growth of bureaucracy and the complex, time-consuming procedures that administrators inevitably create in their justified attempts to introduce "rational and coordinated" methods. University or college administration has now become a career and administrators are usually better informed about governmental intentions than academics. One dramatic example of the power that politicians and administrators now seek to exert occurred in Baden-Wurttemberg in Germany, when the minister of culture suddenly presented university rectors with an envelope that contained, without any further comment, the draft of an order to eliminate 1,390 posts at institutions of higher education! Nevertheless, the bureaucrat's role is a frustrating one; it has been well described by a senior German civil servant:[21]

> Whether he wants to or not, he must participate in combat, although he also ought to act as a medic. He is to supply the politicians with ammunition and to dress the wounds of the academics. He is the one who personifies government actions.

If the laws are to be carried out properly, if civil rights are to be implemented, and if public services are to be well administered, bureaucracy as such is inevitable and indispensable. But the kind of bureaucracy that is currently developing has a deadly effect on creative thinking, on flexibility, and on the imagination. However, we need all this to solve the problems of the next decade which affects the life of those children who were born in the years of a high birth rate; hence, in my opinion, it is a matter of maintaining our social and political peace.

Sweden has perhaps had the most "reformed" system in the West. Yet as the authors of the Swedish report remind us, some matters are beyond the reach of governments, and institutions have private as well as public lives. Admittedly, the authors concede, the national apparatus has a high potential to effect changes in systems. Its most apparent weakness, however, is its lack of insight into how institutions really function, what forces really govern their internal lives, and what types of change can be effected in what ways.[22]

. . . Central authorities do not seem to be fully aware of the implications of the conflict between the official machinery and the hidden mechanisms in university life. The departments are the most powerful components in higher education. They have values of their own and they are able to resist orders from above. Central authorities overestimate their ability to govern by paragraphs and underestimate the tendencies that exist to evade them, as well.

. . . In some respects national reforms have been very effective instruments of change. If, for instance, you want to meet social demands or adapt to reforms of secondary schools by changing the rules of admission to higher education, a central decision by the Parliament has an immediate effect on all institutions (even apart from the fact that the admission procedure is largely centralized). The same applies to changes in, for instance, the resource allocation system and the formal institutional organization.

But in other areas, traditional reform strategies have proved less successful. A good example is provided by the development of the educational committees at the faculty level. But studies of them have shown that there is not much resemblance between governmental intentions and the way the committees really functioned. They were, usually, more pas-

sive then active. They have been characterized as "paper mills" in which decisions made elsewhere (usually within departments) are confirmed.

This contrast between effectiveness in some cases and ineffectiveness in other instances seems to be connected with the distinction, made by Martin Trow, between the public and private lives of universities. The private life, the interaction between teachers and students, is, to a large extent, beyond the reach of public or governmental action. Of course, changes in public life can have effects on private life, but often they are unexpected and unintended. The question is: how much can the central government govern higher education? Certainly there are limitations.

Conclusion

History may well acknowledge the birth of mass higher education across the world in the 1960s as one of the most profound arts of social engineering ever achieved by man, particularly in the United States. The increase in mass higher education may have a more profound effect on societies than universal primary education. Some countries may already claim to have reached the stage of near universal higher education in some areas. Amidst this flux, perhaps the most surprising feature has been the preservation of the traditional university. The age of equality in both communist and capitalist nations has still acknowledged the need for centers of excellence, for scholarship, and research. Universities have met some new challenges, particularly of expansion, but new institutions have sprung up to meet the tasks of mass higher education. The value of higher education has also been universally recognized. As Lyman Glenny says, a service orientation, "the state is our campus," has made American higher education an integral part of government and its social and economic life: "The public demands for an ever increasing number of such services reveals the worth the citizens see in the higher education system."[23]

Some big questions remain for the future. As set out by Martin Trow, probably the most authoritative of the commentators on higher education, they include:[24]

— Is increasing control over the forms and functions of higher education by central public agencies or authorities an inevitable concomitant of expansion and increased costs?

- Is the (increasing) role of public authorities presently a force working against diversity in higher education, in their functions and standards, their modes of governance, their forms of instruction, their sources of support, and their relation to other institutions of society?
- If so, are these "standardizing" tendencies inherent in central governmental control, or is it possible for central governing and financing agencies to function in ways that sustain and increase the diversity in higher education? If so, what governing and funding structures would have that effect, and what principles of operation would govern their activities? How can efforts to support diversity be sustained against the political pressures arising out of political and bureaucratic norms which prescribe equitable treatment of all comparable units and growing egalitarian sentiments and policies?
- What are the conditions—the milieux and human relationships—which encourage creative intellectual, scholarly and scientific work in our colleges and universities? How will they be affected by the broad structural, organizational, and political changes that we are witnessing? Should not a concern for the protection of the situations in which creative work of the highest quality is carried out by teachers and students be very high in our priorities?

Another big question will be the development of the institutional framework of the system of postsecondary education. Are we, as Clark Kerr suggests, moving away now from class-oriented to merit-oriented higher education? Kerr himself favors a system with three models: a core sector of graduate training and research; another organized around the occupational and vocational needs of society for undergraduate training and the "general education" interests of students; and the third based on students' and society's demands. Systems like this now exist or are being planned in most of the nations studied and have been developed in the past twenty years.

Whatever happens, a larger framework has been set, more challenging tasks have been sighted, and aims and goals are being extended—all thanks to the example set in the past two decades. The historian of the future, scanning the mid-twentieth century for

signs of intellectual vigor and will, almost certainly will alight on the expansion of higher education as one of its most thrilling achievements.

FOOTNOTES

1. Tony Becher, Jack Embling, and Maurice Kogan, *Systems of Higher Education: United Kingdom* (New York: ICED, 1978), p. 37.
2. Lyman Glenny, "Effectiveness of the System," *Systems of Higher Education: United States* (New York: ICED, 1978), p. 87.
3. Rune Premfors and Bertil Östergren, *Systems of Higher Education: Sweden* (New York: ICED, 1978), p. 108.
4. Jan Szczepański, *Higher Education in Eastern Europe*, ICED Occasional Paper Number 12 (New York: ICED, 1974), p. 7.
5. B.B. Kymlicka, "Ontario," *Systems of Higher Education: Canada* (New York: ICED, 1978), p. 107.
6. Edward Sheffield, "Summary and Comment," *Systems of Higher Education: Canada* (New York: ICED, 1978), p. 194.
7. David Henry, "Administration of Higher Education," *Systems of Higher Education: United States* (New York: ICED, 1978), p. 54.
8. Alain Bienaymé, *Systems of Higher Education: France* (New York: ICED, 1978), p. 33.
9. Hansgert Peisert and Gerhild Framhein, *Systems of Higher Education: Germany* (New York: ICED, 1978), pp. 49-50.
10. Edward Sheffield, "Summary and Comment," *op. cit.*, p. 190.
11. Peisert and Framhein, *op. cit.*, p. 122.
12. *Ibid.*, p. 122.
13. Becher, et al., *op. cit.*, p. 119.
14. *Ibid.*, p. 112.
15. *Ibid.*, pp. 118-19.
16. *Ibid.*, pp. 125-26.
17. Premfors and Östergren, *op. cit.*, p. 152.
18. Edward Sheffield, "Summary and Comment," *op. cit.*, p. 204.
19. Bienaymé, *op. cit.*, pp. 37-39.
20. *Ibid.*, p. 92.
21. Peisert and Framhein, *op. cit.*, pp. 193-94.
22. Premfors and Östergren, *op. cit.*, pp. 161-62, 167-68.
23. Lyman Glenny, *op. cit.*, p. 97.

24. Martin Trow, "Problems in the Transition from Elite to Mass Higher Education," *Policies for Higher Education*, The General Report on Future Structures of Post-Secondary Education (Paris: OECD, 1974), p. 98.

5 MEASUREMENTS OF EFFICIENCY

Howard Bowen

The concepts of efficiency, accountability, and management are conspicuous in current discourse on higher education the world over. As is true of the weather, everyone talks about efficiency, accountability, and management but few do anything about them. The reason is that all three of these concepts are utterly meaningless in the absence of valid assessments of the outcomes of higher education and no one quite knows how to assess outcomes except through vague intuitive procedures. Higher education is not alone in facing the insistent demand for efficiency. This demand has been directed toward most types of public service organizations. It reflects in part a weakening of confidence in many of our social institutions and in part frustration over soaring costs. But it also reflects a widespread, and perhaps well-founded, view that many of our public services—including higher education—could deliver more or better results at lower cost.

In the case of higher education, those who ask for greater efficiency are demanding a lot. They are insisting that institutions, and systems of higher education as well, identify and measure their outcomes and then weigh the results against the cost. One of the stubborn facts of life is that most of the values we cherish are not readily susceptible to precise measurement. Assessing such values as friendship, love, beauty, honor, patriotism, fairness, and learning is an art that is based upon intuitive judgment. When such intuitive judgment is formalized, it is called criticism. Our powers of criticism are developed in proportion to our sensitivity, and our critical judgments are based upon standards derived from tradition. The influential critic is a person who has keen sensitivity coupled with knowledge of traditional standards and who is thus

able to reach judgments that gain wide acceptance. We are familiar of course with the art critic and the social critic. Even in the area of economics, where money serves as a measure of value, the critic has an important role. For example, an economy may be criticized because it does not produce a fair distribution of income, or because it does not give sufficient attention to the environment, or because it ignores job satisfaction, or because it produces personal alienation or because it encourages vulgar taste.

In the world as it is—even in the economy—there is no way to solve questions of value by easy quantitative formulas. There is no way to sidestep intuitive judgment and criticism with all the pitfalls they entail. This is especially so in education, where the purpose is to facilitate the sound development of unique human beings and where the ultimate end is the good life for individuals and for society. It would be foolish to suppose that educational outcomes could be readily quantified or that the processes of judgment and criticism could be wholly dispensed with. As the authors of the paper on the British system of higher education observe,[1] evaluating higher education—whether a single professor, a university, or a system—"is more like appraising a painting or reviewing the production of a play, or criticizing a novel, than it is like checking the quantity of nuclear fall-out in the atmosphere, or measuring the noise level near an airport."

Nevertheless, the concept of efficiency has a place in all human endeavors, even in such inscrutable areas as foreign policy, military strategy, religion, art, marriage, and poker. Education is surely no exception; there are better and poorer ways of educating and there are also more expensive and less expensive ways of going about it. The most efficient methods are those which yield the highest ratio of results to cost. Just as families or churches or nations can be more or less efficient in achieving their benevolent purposes, colleges and universities can also be more or less efficient. And colleges and universities could be more efficient if they paid greater attention to discovering their outcomes.

At present, educators know very little about their results and next to nothing about the effects of changes in their procedures and methods on their results. There have been sporadic studies of outcomes in particular institutions and a number of one-time studies of small samples of institutions. Also, there have been many public opinion surveys in which attitudes and behaviors are classi-

fied by educational level of respondents. But there have been few systematic ongoing efforts to assess outcomes, and certainly few cases where the study of outcomes has been linked with managerial decisions. Such studies are urgently needed if higher educational institutions and systems are to have better information for management and accountability, and if educators are to learn more about the consequences of alternative procedures and methods. Without such knowledge, higher education is destined merely to follow tradition, or to do what is expedient in the light of prevailing pressures of the market and of politics, or to be vulnerable to every fad that sweeps through the educational community, or to manage solely by intuition.

One may respect tradition because it is the result of a kind of natural selection achieved through many trials and errors. One may see that sometimes there is a need to adjust to market or political pressure. One may also believe that institutions should be open to the new; and one may respect intuition especially when it is practiced by experienced and sensitive persons. Yet, decision making need not be based solely on tradition, political pressure, fad, and intuition; these can be supplemented by knowledge. If the nature of our task is such that we often must fly blind, it would be good to have radar to give at least a general sense of direction.

The Concept of Efficiency

The higher educational system of any nation may be regarded as a major industry. It uses substantial resources in the form of land, capital, and labor (including the time of the students), and it yields products or outcomes in the form of learning and personal development of students, immediate and lifetime satisfactions for students, advancement of knowledge and the arts, and assorted public services. Through these joint products or outcomes, higher education may exert effects upon society and even on the course of human history. In most nations, higher education is carried on in a variety of schools, colleges, and universities and also to a greater or lesser degree in business enterprise, the armed forces, libraries, the mass media, and independent study. In considering the efficiency of a national system of higher education, one must ask whether the outcomes of all these varied activities are commensurate with the resources employed.

Efficiency is relevant to any human activity in which valuable means are employed to achieve desired ends. Efficiency is not confined to values that are measured in money or traded in a market. It applies wherever ends are sought, whether these ends be mundane consumer goods such as bread or gasoline, broad social goals such as national defense or crime abatement, or lofty individual goals such as personal serenity, artistic appreciation, or humane learning. The concept of efficiency is surely not out of place in higher education.

The degree of efficiency in any activity is commonly measured, or judged, by comparing means and ends. The greater the ends achieved with given means, or the fewer the means used to achieve given ends, the greater the efficiency. Such comparisons of means and ends are commonly expressed as ratios by pairs of words such as cause-effect, resource-outcomes, input-output, cost-revenue, cost-effectiveness, or cost-benefit. Regardless of the terminology, the underlying concept is that the use of means involves a *cost* and that efficiency is measured or judged in terms of a *ratio* between outcomes and cost.

In the final analysis, the cost is in the form of sacrificed alternatives. When means are committed to any given end, the cost consists of the sacrifice of the best alternative end to which the means might have been committed. Comparisons between different uses of the same means are aptly expressed by the common word "tradeoff" which implies that before committing means to any one end, the possible benefits of alternative ends must be considered.

The degree of efficiency in higher education is judged by comparing the outcomes of higher education (at the margin) with the outcomes that might have been realized if the same means had been employed for other purposes; for example, purposes such as personal consumption, health services, or national defense. The question of whether the higher educational system is worth what it costs and whether it should be expanded or contracted is answered by a judgment as to whether greater or better outcomes could be attained by transferring resources into higher education or transferring them out of higher education.

Efficiency in a national system of higher education may be considered at three levels which I shall call Efficiency I, II, and III. Efficiency I, at the highest and most comprehensive level, pertains to the *overall magnitude or scope* of the higher educational system.

It relates to matters such as the number of students served, the extent of the research effort, and the amount of public service provided by the entire system. It is also concerned with the overall quality or opulence with which the several functions are performed. Efficiency I is measured or judged as a ratio between the costs of the entire system and the outcomes it yields. It deals with the question of whether the higher educational enterprise is worth what it costs. Is it, as some contend in every nation, a ponderous, bloated, wasteful enterprise, expanded out of all proportion to the genuine returns it yields? Or is it, as others contend, an impoverished enterprise that produces outcomes of far greater value than the resources it uses? Efficiency I relates to the question of whether some of the resources now used by higher education would produce a greater return if transferred to other industries such as national defense, or health care, primary education, or housing, or whether resources now used in these other industries could prudently be shifted to higher education.

Efficiency II pertains to the *organization* of the national higher educational system. Given the overall scope and quality of the system, is it organized with the best division of labor among various types of institutions? Are the institutions of appropriate size and geographic distribution? Do they provide equitable opportunity for different social classes? Does the structure of governance provide a reasonable balance between local initiative and academic freedom on the one hand and coordination, economy, and concern for social goals on the other?

Efficiency III pertains to the *operation of single institutions*. Given the overall scope, quality, and organization of the system, and given the mission of particular institutions, how well are the individual institutions conducted? Do the incentives and constraints at work lead to good performance coupled with economical use of resources?

Clearly, the three levels of efficiency are interrelated in that resources saved or performance improved at levels II and III will tend to enhance efficiency of the whole system, that is, Efficiency I. Nevertheless, it is useful to consider the efficiency question from the standpoint of the three levels, because each is related to a different set of decision makers. Efficiency I is mainly the task of governments; Efficiency II is mainly the bailiwick of educational ministries and other coordinating bodies, and Efficiency III is

mainly the responsibility of institutional governing boards, administrators, and faculties. These jurisdictions of course overlap, but essentially there is a fairly clear division of responsibility among Efficiency I, II, and III.

If higher education were sold in the market at a price sufficient to cover cost, some of the efficiency questions would be resolved through market dynamics. (This is not to imply that the market is an infallible arbiter of value.) But all nations offer higher education at less than cost or at no charge, so efficiency becomes a matter of evaluating benefits for the whole society, though these benefits may not be equally distributed to all persons. The benefits may be valued differently by different persons, and the costs may be financed wholly or in part through involuntary taxation. Under these conditions decision making is partly political, and inevitably involves compromises among individuals.

In popular discussions of efficiency in higher education, two frequent errors are committed. The first, common to critics of higher education, is to judge efficiency only in relation to cost. It is assumed that an institution which can educate a student for $2,000 a year is more efficient than one which expends $3,000 per student. Clearly, the question of which is more efficient can be answered only when something is known about the outcomes. The second error, common to the proponents of higher education, is to judge efficiency only in relation to outcomes. It is assumed that improved outcomes are desirable regardless of cost. Both of these approaches fail to recognize that efficiency is a relationship between two variables, cost and outcome. To cut costs would not be efficient if the outcomes sacrificed were more valuable than the product of the resources saved; on the other hand, to add to cost would not be efficient if the outcomes added were less valuable than the benefits that would result from adding the resources to another use. Higher education has no claim on resources that produce only minor gains in outcomes at the expense of major sacrifices of other goods.

One of the problems in considering efficiency in higher education is that neither the costs nor the outcomes can be fully measured in monetary terms. The costs for capital, labor, and purchased supplies and services can be calculated in dollars, but not the students' time or the various inconveniences borne by students and their families, or the time of volunteer workers.

The outcomes are intangibles such as human development, immediate and lifetime satisfaction of individuals, advancement of knowledge and the arts, and various other benefits for society-at-large. Under these circumstances, the efficiency problem becomes a matter of making judgmental comparisons of costs and outcomes rather than precise comparisons of easily measurable dollar amounts.

Appraisals of Efficiency in Twelve Countries

My paper was originally conceived as a commentary on twelve reports published by the International Council for Educational Development. The reports, which are the result of a three-year study, concern the current state of higher education in each of the countries. They are, without exception, highly informative but few of them deal in any depth with the question of efficiency. The reason is obvious. The art of assessing education is at a primitive stage throughout the world. Educators everywhere are faced with the need for appraising efficiency in the sense of weighing outcomes against costs and of discovering the impacts of developments such as changes in admissions policies, establishment of new types of institutions, innovations in methods of teaching and learning, curricular modifications, growth in size of institutions, and adoption of new research or public service programs. If educators cannot confidently assess the results of such changes, neither accountability nor efficiency have any significant meaning and rational management becomes virtually impossible. Indeed, every educator has sat in meetings of faculty or governing boards where sober and spirited discussions of educational policy take place without anyone's having solid knowledge of what difference one decision or another would make in the students' cognitive or personal development, the advancement of learning, or the solution of social problems.

In view of the primitiveness of the art, it is no wonder that the authors of the several country reports were unable to provide definitive measurements or judgments as to the efficiency of their systems of higher education. Some of them presented important evidence relating to efficiency and to some extent all of them re-

vealed their judgments partly by what they said and partly by what they did not say.

Nevertheless, there was considerable agreement on the broad goals of higher educational systems. The following were mentioned frequently:

- personal development of the students' cognitive abilities, character, citizenship, breadth of outlook, and cosmopolitanism;
- extension of education opportunity to an ever larger proportion of the population (including adults) with greater equality of opportunity and perhaps greater equality of achievement and social condition;
- identifying and nurturing exceptional talent;
- helping students acquire specific knowledge and skills related to careers in specific professional and technical fields or knowledge, skills, and orientation generally useful in practical affairs; often this objective was expressed as meeting the manpower requirements of the economy. Some groups, however, expressed considerable skepticism about the feasibility or usefulness of the manpower approach;
- advancement and diffusion of knowledge and preservation and enrichment of the culture; and
- direct or indirect contributions to the amelioration of social problems and to national economic and social development including the modernization of traditional societies.

The several country teams seemed reasonably satisfied with the performance, or at least the progress, of their higher educational systems with respect to these goals. There were few harsh criticisms and there was a prevailing tone of mild satisfaction and even optimism. Moreover, most of the reports implied that governments have not been overly generous with funds. Thus, the judgment that adequate results had been achieved even with inadequate financing suggests that the various groups of authors viewed their systems as reasonably efficient. This general conclusion was reached despite the fact that there were wide differences among the various countries in relative enrollment, program organization, and level of funding. The assessments of efficiency—expressed or implied—may have revealed as much about the philosophy and temperaments of the authors as about the realities of the national systems of higher education.

Some Comparative Data

In this section, I shall assemble some comparative data pertaining to the efficiency of national systems of higher education. International comparisons are of course risky because of differences in basic conditions, variations in definitions, and ambiguities in monetary exchange rates. Moreover, I was unable to find any data that would be a wholly appropriate measure of efficiency, taking into account both cost and outcomes. Nevertheless, the available data are interesting, especially because they reveal wide differences among countries in both costs and outcomes.

Table 1 shows international comparisons of student-teacher ratios. The range seems extraordinarily wide. What the data do not reveal is the relationship, if any, between student-teacher

TABLE 1
Student–Teacher Ratios in Tertiary Education in Twelve Countries, 1974

	Students Enrolled[1] (in thousands)	Teaching Staff[1] (in thousands)	Student-Teacher Ratio
Australia	253.0	18.5	13.7
Canada	706.7	44.5	15.9
France[2]	737.1	37.9	19.4
Germany (West)[3]	729.2	93.8	7.8
Iran	135.4	12.3	11.0
Japan	2,155.9	184.4	11.7
Mexico	453.0	34.9	13.0
Poland	521.9	46.1	11.3
Sweden	128.9	N.A.	N.A.
Thailand	75.4	10.0	7.5
United Kingdom[4]	216.7	28.8	7.5
United States	10,223.7	633.0	16.2

Source: United Nations, *Statistical Yearbook, 1976*, pp. 838-61; UNESCO, *Statistical Yearbook, 1975*, pp. 222-68.

1. Includes part-time students and part-time teaching staff; includes both public and private institutions, but excludes adult education and correspondence schools.
2. 1973; includes only universities and equivalent institutions.
3. 1973; includes Berlin.
4. 1971; includes only universities and equivalent institutions and covers only England and Wales. The comparable ratios for Northern Ireland and Scotland are 10.5 and 11.2 respectively.

ratios and instructional outcomes or scholarly achievement. Is academic learning more intense or scholarship more productive in Thailand or West Germany where the ratio is low than in Canada where it is high? Such differences inevitably lead to questions as to whether very low and costly student-teacher ratios produce commensurate outcomes or whether high ratios are a sign of inadequate performance.

Another approach to the efficiency question is to compare expenditures per student as shown in Table 2. The data have special weaknesses: they do not include private expenditures for higher education; the comparisons between developing and developed

TABLE 2
Governmental Expenditures Per Student in Tertiary Education (in U.S. dollars)

	Year	Total Expenditures (in millions)[1]	Total Enrollments (in thousands)[2]	Total Expenditures Divided by Enrollment
Australia	1974	N.A.	253.0	N.A.
Canada	1974	2,956	706.7	4,183
France	1973	1,455	772.1[3]	1,884
Germany (West)	1975	2,962	840.8[4]	3,523
Iran	1973	1,413	135.4	1,044
Japan	1972	15,277	2,155.9	709
Mexico	1974	2,561	453.0	565
Poland	1974	N.A.	521.9	N.A.
Sweden	1974	471[5]	128.9	3,654
Thailand	1974	430	75.4	570
United Kingdom	1973	2,583	627.0[6]	4,120
United States	1974	27,000	10,223.7	2,641

1. Converted to U.S. dollars from local currency using official exchange rates in the relevant years. Includes current and capital expenditures. UNESCO, *Statistical Yearbook, 1975*, pp. 403-29.
2. United Nations, *Statistical Yearbook, 1976*, pp. 838-61; UNESCO, *Statistical Yearbook, 1975*, pp. 222-68. Includes part-time students; includes both public and private institutions, but excludes adult education and correspondence schools.
3. Includes only universities and equivalent institutions.
4. 1975; includes Berlin.
5. Current expenditures only.
6. 1972.

countries are not very meaningful; expenditures for research and public service have not been excluded; and the exchange rate problem is severe. Nevertheless, the data do suggest that there are substantial differences among comparable countries in expenditures per student. They raise the question of whether the high expenditures in some countries are justified by the outcomes and whether the low expenditures in other countries are associated with education of unsatisfactory quality.

Still another indication of relative efficiency may be derived from comparative studies of the rates of return to investments in higher education. Dr. George Psacharopoulos[2] of the London School of Economics has assembled considerable information on this subject. Table 3 summarizes his findings on both social and private rates of return for a selected group of countries. Because he did not provide data for all twelve countries included in the ICED

TABLE 3
Social and Private Rates of Return to Investments in Higher Education

	Year	Social rate of return[1]	Private rate of return[2]
Belgium	1969	9.3%	17.0%
Canada	1965	14.0	19.7
Germany (West)	1967	N.A.	4.6
Israel	1966	6.6	8.0
Japan	1970	6.0	9.0
Mexico	1967	23.0	29.0
New Zealand	1968	13.2	14.7
Sweden	1970	9.2	10.3
Thailand	1971	11.0	14.0
Turkey	1971	8.5	26.0
United Kingdom[3]	1971	8.2	12.0
United States	1970	9.7	13.6

Source: George Psacharopoulos, *Returns to Education: An International Comparison* (San Francisco: Jossey-Bass, Inc., 1973), p. 62.

1. The social rate of return refers to returns before taxes on investments in higher education including both private investments and public subsidies.
2. The private rate of return refers to returns after taxes on private investments in higher education.
3. Great Britain only.

study, several more or less comparable countries have been substituted. As would be expected, Psacharopoulos found differences among the countries in rates of return. However, in most of the countries, the social rate of return varied from 6 to 11 percent, roughly comparable to the rate of interest on bonds. Canada, New Zealand, and Mexico were exceptions, however, with substantially higher rates of return. Psacharopoulos also collected data on average annual earnings of labor by educational level. As shown in Table 4, higher education yields a substantial increase in earnings as compared with the compensation of persons with only a secondary education. Though the differentials vary, there is a central tendency. Those with higher education earn on the average about 50 percent more than those with only a secondary education. In

TABLE 4
Average Annual Earnings of Those with Higher Education as Percentage of Earnings of Those with Primary and Secondary Education

	Year	Primary Education[1]	Secondary Education[1]
Belgium	1960	502%	200%
Canada	1961	263	183
France	1968	289	158
Greece	1960	220	158
Italy	1969	244	173
Japan	1968	161	138
Netherlands	1965	152	116
Norway	1966	213	152
United Kingdom	1967	225	161
United States	1967	200	155
Ten OECD Countries	—[2]	219	156
Eight Developing Countries[3]	—[2]	639	267

Source: George Psacharopoulos, *Earnings and Education in OECD Countries* (Paris: OECD, 1975), pp. 165, 167. These statistics are not strictly comparable. They relate mostly to urban males and are not standardized by age (*Ibid.*, p. 163).

1. In most countries, primary refers to 0-8 years of schooling; secondary to 12-14 years; and higher to 16 or more years (*Ibid.*, p. 164).
2. Various dates.
3. Malaysia, The Philippines, Ghana, South Korea, Kenya, Uganda, Nigeria, and India.

the developing countries, however, the differential is substantially wider. These statistics on rates of return and earnings suggest that there is some commonality of experience among comparable countries in the economic effects of higher education. As measured by the economic returns alone, the levels of efficiency seem to be roughly comparable.

One of the frequently cited goals of national systems of higher education is access, which usually means the extension of higher education to an ever larger proportion of the population. Comparative data on the rate of enrollment growth, on enrollment as related to population, and on enrollment of women are all possible indicators of the degree to which nations have achieved or are achieving access.

Tables 5 and 6 show comparative rates of increase in enrollment and in number of graduates. Substantial growth has occurred in all twelve nations. In the period 1965–70, the annual growth rate was 8.7 percent or more in eight of the countries. In the other four countries (Australia, West Germany, Poland, and United Kingdom), the growth rate ranged from 3.2 to 6.7 percent per annum. In each of these four countries, however, the compara-

TABLE 5
Average Annual Rate of Enrollment Increase in Higher Education, 1950–1970 (in percent)

	1950–55	1955–60	1960–65	1965–70
Australia	—	—	9.6	5.4
Canada	—	—	12.0	13.2
France	2.4	5.7	14.0	9.8
Germany (West)	3.4	10.6	5.1	6.2
Iran	12.9	14.4	8.4	10.3
Japan	7.0	5.3	8.4	9.0
Mexico	9.8	6.9	11.2	13.2
Poland	—	—	10.8	3.2
Sweden	5.3	8.0	13.1	12.7
Thailand	2.6	7.6	4.4	8.7
United Kingdom	—	7.2	7.5	6.7
United States	—	—	9.1	9.0

Source: UNESCO, *Higher Education: International Trends, 1960-1970* (Paris: 1975), pp. 39, 58, 64, 86, 110.

tively low growth rate in 1965-70 had been preceded by a greater rate in an earlier period. When growth is measured in average annual percentage increase in number of graduates during 1960-70, all the countries showed substantial increases—mostly about 8 percent a year (see Table 6).

When enrollments are related to population (Table 7), it is clear that the twelve countries are divided into three markedly different groups. At the extremes are the three developing nations—Iran, Mexico, and Thailand—with 2 to 6 percent of the twenty to twenty-four year old population in higher education, and Canada and the United States with 35 and 49 percent of the twenty to twenty-four year old age group in a college or university. Between these extremes are the seven other countries with 13.8 to 22.1 percent of the twenty to twenty-four age group in higher education.

TABLE 6
Average Annual Rate of Increase in Number of Graduates, 1960–1970 (in percent)

	Diploma and Certificates below the First University Degree	First University Degrees or Equivalent	Advanced Degrees
Australia	—	8.9[1]	16.1
Canada	—	13.1	16.4
France[2]	—	8.1[3]	15.4[3]
Germany (West)	3.5	8.5	6.6
Iran	—	15.2[4]	—
Japan	14.7	7.3	13.5
Mexico	—	11.0[5]	—
Poland	13.7	—	10.1
Sweden	7.8	15.0	10.7
Thailand[6]	4.4	12.7	27.0
United Kingdom	—	9.1[4]	8.9[4]
United States	—	8.1	11.5

Source: UNESCO, *Higher Education: International Trends, 1960-1970.*

1. Includes diplomas and certificates.
2. Universities only.
3. 1960-65.
4. 1965-70.
5. 1965-69.
6. 1961-70.

These marked differences suggest the following questions: Is it efficient to expand higher education to the extent that it has occurred in Canada and the United States? Should the developing countries have expanded higher education further? Is there virtue in the middle position?

My review of data has perhaps highlighted some of the differences and similarities among countries with respect to their national systems of higher education. But it is clear that this review has not established which systems are more, and which are less, efficient. Ultimately, the relative efficiency of the different national systems depends on the particular economic and social conditions in each country, for example, on the values of the people, on the existing level of education among the adult popula-

TABLE 7
Enrollments as Related to Population

	Enrollment per 10,000 Population,[1] 1970	Enrollment as Percentage of Population Aged 20–24[1] 1970	Women as a Percentage of Total Enrollment[2] 1974
Australia	—	16.7	38.9
Canada	300	35.5	43.7
France	129	16.0	46.9[3]
Germany (West)	83	13.8	33.7[4]
Iran	26	3.1	28.5
Japan	176	17.1	31.4
Mexico	49	5.8	N.A.
Poland	120	13.8	53.2
Sweden	176	22.1	45.8
Thailand	15	1.9	43.4
United Kingdom	108	13.9	33.9[5]
United States	414	49.2	45.0

1. UNESCO, *Higher Education: International Trends, 1960-1970.*
2. United Nations, *Statistical Yearbook, 1976,* pp. 838-61; UNESCO, *Statistical Year book, 1975,* pp. 228-68.
3. Includes only universities and equivalent institutions.
4. 1975; includes Berlin.
5. 1972; includes only universities and equivalent institutions and covers only England and Wales. The comparable figures for Northern Ireland and Scotland were 37.4 and 37.5 respectively.

tion, on the scope and quality of both the secondary and higher educational system, and on the capacity of the labor force to absorb college graduates. But when comparable countries experience widely different participation rates and spend drastically different relative amounts on higher education, their efficiency levels may vary widely.

The key to the question of efficiency lies not in comparisons and analyses of cost and enrollment data but rather in the investigation of outcomes. Outcomes in this sense refer to the individual and social results of higher education. Would it be possible within each country to assemble statistical and analytical evidence about the effects of higher education on students as individuals and about its consequences for society so that meaningful comparisons between costs and outcomes could be made? Could this be done in ways that would inform judgments about the allocation of resources and that would guide managerial decisions? In my judgment, the answer to both these questions is "yes." In some countries, a considerable amount of information on outcomes already exists. Such information is usually fragmentary, of uneven credibility, and it is often ambiguous and difficult to interpret. But information does exist or can be gathered. I have recently collected such data on the United States and have been surprised by the amount of available information, scattered and uneven though it may be, on the individual and social outcomes of American higher education.[3] My study, though far from definitive, has convinced me that much more could be done, without exorbitant cost, toward assessing the outcomes of national higher education systems.

Principles

Let me now suggest some basic principles that might be followed in identifying and evaluating outcomes.

My first principle is that in judging the efficiency of a system of higher education, a clear distinction should be made between inputs and outputs. The inputs are the resources employed including land, capital, and labor. The labor includes not only teachers, administrative staff, and nonprofessional employees but also the students' time. The outcomes are the additions to knowledge, the advancement of the arts, the improvements of the culture, and the personal development of the students that are attributable to

higher education. Some of the outcomes may be negative and these must be included in the overall assessments. Higher education is often judged by such criteria as faculty-student ratios, building space, equipment, library books, admissions test scores, current expenditure per student, and eminence of faculty, among others. In fact, these are all inputs and say nothing about outcomes except insofar as these inputs are assumed to be correlated with outcomes, an assumption that is (within wide limits) highly questionable. Sometimes "processes" such as methods of teaching, curricula, student attendance in the libraries, and extracurricular experiences of students are judged as outcomes. These are, strictly speaking, technologies by which resources are transformed into outcomes, and not outcomes proper. Even such phenomena as absenteeism or dropout rates are not conclusive indicators of outcomes. It is possible that students are doing the right thing, in terms of their personal development, by staying away from formal programs, or by changing institutions, or by dropping out of college altogether.

The only valid outcomes are changes in persons and changes in society as a consequence of higher education. The reason that higher education is so often judged by inputs or processes is, of course, that educators are so helpless when confronted with the task of assessing outcomes. They revert to inputs and processes in the desperate but unsubstantiated hope that these will be somehow correlated with true outcomes. When the purpose of evaluation is to learn about the efficacy of resource allocations and of educational processes, it is scarcely appropriate to use inputs and processes as proxies for outcomes.

My second principle is that the assessment of outcomes should be linked to *all* the major goals of higher education, and not confined to particular aspects of human development or social advancement. Everywhere, there is a tendency to judge higher education by effects that can easily be identified and measured, for example, by test scores or income of graduates. There is also an inclination to concentrate on economic outcomes such as rates of monetary return to investments in higher education or effects on national economic growth, and to exclude results relating to citizenship, family life, moral development, aesthetic sensitivity, or cultural advancement. Outcomes at least in the following areas should be considered in judging the efficiency of higher education.

Outcomes for individual students:

- —cognitive development including verbal and quantitative skills, substantive knowledge, rationality, critical thinking, intellectual tolerance, lifelong learning;
- —aesthetic sensibility;
- —emotional and moral development including personal self-discovery, human understanding, religious interest, psychological well-being;
- —practical competence relating to citizenship, economic productivity, family life, consumption, leisure, and health;
- —direct satisfactions and enjoyment from college education during the university years and in later life.

Outcomes for society from education, research and scholarship, and public service:

- —advancement and diffusion of knowledge;
- —preservation of the cultural heritage and cultural advancement;
- —economic growth through advancement of technology, training of the labor force, and increasing labor force participation;
- —facilitation of social progress and amelioration of social problems;
- —progress toward human equality.

It is appropriate to search for outcomes in relation to the accepted goals of higher education. But goals are only the intended outcomes, and there may be unintended outcomes. Some of these may by good fortune be positive, but some may be negative. For example, higher education may generate boredom, discouragement, bad personal habits, or even suicide among students. It may suppress creativeness. It may weaken values associated with hard work and thrift and thus slow up the rate of economic growth. It may in practice serve an elite minority and work against human equality. Such negative outcomes may offset some of the positive benefits.

A third principle is that educational outcomes for individual students should relate to the development of the whole person. Most evaluations of students measure only particular aspects of the students' personalities—for example, verbal skills, religious interest, aesthetic sensibility, general knowledge, or life goals. Each of these evaluations tells something about groups of students

with respect to a particular dimension of their personalities, but tells very little about what happens to individual students considered as whole persons. Indeed, the average changes on these various personality dimensions are usually small and lead the unwary to the conclusion that higher education really does not matter very much. Actually, it may exert a major impact on its students, even when there is little or no change in average scores or particular characteristics. The explanation of this seeming paradox is that there can be enormous discrepancies among individuals with respect to particular characteristics while the averages change little or not at all.

Tabulations of scores on specialized tests usually show wide disparities. On any given dimension some students will gain ground, some will lose ground, and some will not change at all. Aggregates and averages reflect the central tendency of all these wide variations and conceal the substantial differences experienced by different individuals. For example, Feldman and Newcomb[4] cite a study in which a group of freshmen achieved an average score of 41.75 on an evaluation of their religious values; the identical students as seniors scored 41.57. But the individual students within the group showed changes as follows: -19, -16, -14, -12, -2, +1, +3, +7, +11, +12, +16. A comparison of the two averages would lead to the conclusion that no change had occurred; yet the individual scores revealed enormous variability.

To study the true outcomes of higher education in all their variability, then, calls for the study of individual students in some depth. One must ask, not what was the average gain in verbal skills of a nation's or an institution's entire student body, but rather what happened in the total personality and in the life experience of individual students as a result of their university careers.

A fourth principle is that assessments of outcomes should be based upon the study of graduates as well as of students currently enrolled. The study of graduates raises questions that have barely been touched in educational research. For example, we have almost no data on the carryover of substantive learning into adult life. The residue of a university education is a virtual mystery. But we should be interested also in the values and attitudes of graduates, their interests, their citizenship, their family life, and their careers as these may have been affected by their university experiences.

A fifth principle is that evaluations of outcomes should be concerned with the *change* in students as a result of their university experiences, not merely with their absolute level of performance during and after their university careers. By far the most important factor determining the performance of students is their background and ability at the time of admission to university. If a higher educational system, or a single university admits mainly bright young people from affluent families, the achievements of students in their studies and in their later careers will almost certainly exceed those of students in a system which admits students of more varied backgrounds and abilities. It is probable that many nonselective systems or institutions bring about greater changes in their students than some selective ones. Again, it is *change*, not absolute performance, that is the criterion of true educational outcomes. The change may be measured relative to change achieved by those who do not attend university, or relative to change achieved in past years.

A sixth principle is that the evaluation scheme must be practicable. This means that it should not be impossibly expensive. It should concentrate on major goals and avoid trivial detail, and should be based on small samples of students and alumni and not try to cover the entire universe. I would go so far as to suggest that the experiences associated with evaluation should have educational benefits to students of sufficient value to justify the cost on direct educational grounds. I would hope that the faculty and student time involved in assessing outcomes could be incorporated in the regular educational program and not require additional expenditures. The test of practicability means also that the results must be understandable and credible to the public and must carry conviction. Otherwise, the assessments will be worse than useless in achieving accountability. Practicability implies also that the study of outcomes should be linked with serious educational decision making and not be merely a public relations gesture. In short, practicability calls for simplicity, low cost, and integrity.

Finally, my seventh principle is that assessments of outcomes should develop from within individual universities rather than be imposed from the top down by government or other central agencies. There is need for a great deal of experimentation in concepts and methods. Assessment should be related to the special missions and philosophies of particular institutions. It should not be re-

stricted to procedures and instruments that can be used nationally. Institutions should not be put in the position of having to adjust their goals and programs to the requirements of a standardized evaluation scheme or to measure their performance using uniform standards set by others. Clearly, there is a place for procedures and instruments that have wide applicability, but there is great danger that outcomes evaluation will be dominated by conventional academic testing, and this, in my opinion, would be a grave mistake. The true outcomes of education cannot be expressed—except in small part—through techniques that produce neat and tidy numerical scores. They call for serious exploration of what happens in the lives of people as a result of their university experiences. Sound assessments will focus on students as persons, and will provide a vehicle by which institutions can become acquainted with their students as living persons rather than as numbers in computers or grades on transcripts.

Such evaluation would not be easy. It may not even be feasible. Yet I think it is urgent that educators try to learn more about outcomes. And I believe that through such efforts, carried on independently in many institutions, educators might gradually through trial and error develop sound methods which would supplement and reinforce intuitive judgments and serve as a corrective for the wishful thinking and the empty rhetoric that comes so naturally to educators. Over time, the assessment process might contribute to efficiency and might demonstrate the value of higher education in ways that would strengthen public confidence in higher education.

Concluding Observations: From Theory to Practice

What might be done practically within any country to systematically evaluate higher education on the basis of actual outcomes?

Evaluation may be approached from the standpoint of individual colleges or universities. In this case, the aim would be for each institution to assess its results in relation to its particular mission. It would try to appraise changes in students' cognitive ability, aesthetic sensibility, emotional and moral development, practical competence, and so on, and would try to learn about attitudes, behavior, and achievement of graduates as these may have been af-

fected by college or university attendance. And each institution might attempt to measure its progress over time or to compare its performance with that of other similar institutions. In addition, the institution would also evaluate its performance in research and public service.

Evaluation may also be approached from the standpoint of a national system of higher education. Such evaluation would make use of the information obtained by individual institutions, but it would also be concerned with outcomes relating to broad social consequences, for example, effects on the distribution of income, on the rate of national economic growth, on the rate of economic return to investments in higher education, on political attitudes and behavior, on cultural advancement, on public health, on family life and child development, and so forth.

Both approaches—from the standpoint of the individual institutions and from the standpoint of the national system—are necessary to full-scale evaluation and the two approaches are interrelated and complementary. The institutional approach may be referred to as microevaluation and the systemic approach as macroevaluation. Paradoxically, the results obtained from the two approaches may not be identical. It would be logically possible for individual institutions within a national system to receive high marks for their performance in relation to their particular missions, and for the systems as a whole to receive low marks in relation to broad social consequences. This might be true, for example, in an elitist system. Each institution might be performing superbly with respect to the minority of the population it was serving but the system as a whole might be seriously deficient in its impact upon access and opportunity, human equality, broad cultural advancement, and economic growth. Conversely, a national system of higher education might be producing reasonably good results in relation to broad social objectives while the component institutions were performing in mediocre fashion. In this case, however, the national system would presumably get even higher marks if the component institutions were performing better.

As discussed earlier, evaluation of the outcomes of any particular institution calls primarily for study of the changes that occur in students as a result of their experiences in the institution. The outcomes would be defined as *values added* during and after higher education as a result of the college experience, not merely as the

characteristics of students at the end of their college or university experience. For example, in evaluating two institutions, one of which admits students of limited backgrounds and abilities and another which admits highly talented and privileged students, the critical criterion of success would not be the observed differences between the two groups of students after they received degrees, but rather differences in the amount of desired change in these students. If the institution with open admissions achieved greater average change in its students than the institution with selective admissions, then the former would be judged to be superior to the latter in its outcomes even though the graduates of the latter might on the average be more learned, more cultivated, and more competent.

In appraising the amount of change in students, an assessment of the characteristics of entering students is necessary and also subsequent assessments at intervals, especially just before graduation and several years after graduation. These assessments may involve various tests and other instruments measuring academic achievement, interests, aspirations, attitudes, emotional and moral development, practical competence, and other personality traits and abilities corresponding to the goals of the institution. The assessment procedure may also include personal interviews, review of student diaries, records of students' use of time, and job placement and promotion after graduation. In the process it would be important to appraise *values added* for students as whole persons and not merely to confine the evaluation to tests and procedures relating only to particular dimensions of personality. Though the evaluation process should be conducted with great care, it need not be elaborate or expensive: small samples of students could be used and the instruments employed could be brief and simple. Nevertheless, the evaluation process would not be costless in time and money and should itself be judged by its cost-effectiveness. In complex universities, evaluation of outcomes would in most cases be conducted separately by major fields (or faculties) such as law, medicine, and engineering, among others.

The standards for judging the educational outcomes of a particular institution might be derived in three ways. First, absolute standards relating to the aims and mission of each institution might be established and performance judged in relation to these standards. To establish such standards *a priori* would be arbitrary;

in practice, the standards might derive over time from the evaluative process itself. Second, each institution might set standards on the basis of its own performance at a given time and then measure progress or retrogression in relation to these standards. Third, standards might be set for any institution by comparison with other institutions having similar missions. One could imagine clusters of institutions cooperating in the task of evaluation and thus providing norms and comparisons for one another. Regardless of the source of the standards, evaluation would be recurrent—perhaps annually at first and biennially later—so that each institution could measure over time progress or retrogression with respect to its various objectives.

Institutional evaluation calls for review not only of instructional programs but also of research and public service programs. These may be evaluated partly by the gathering of recurrent data on achievements and partly by intuitive or judgmental procedures involving outside observers, including both qualified specialists and informed laymen. A considerable literature on institutional evaluation along the lines suggested here—especially relating to evaluation of instructional programs—has appeared in recent years.[5]

The evaluation of outcomes for a national system of higher education calls for the gathering and analysis of a wide range of data. For most countries some of the needed data will already be available and can be adapted to the task of evaluation. But in all countries there is need for additional information on the impacts of higher education and this can only be collected slowly and patiently over extended periods of time. The following are examples of the kinds of data or analysis that may prove useful:

- —scattered studies relating to the outcomes of particular institutions;
- —data on access of various social classes to higher education;
- —studies of factors accounting for the distribution of income and status in the society;
- —studies of the economic returns to instruction, research, and public services conducted in universities and colleges;
- —surveys of labor force participation, unemployment, and earnings by levels of education;

- —studies of factors underlying national economic growth;
- —studies of factors underlying national cultural development;
- —surveys of opinions, attitudes, values, behavior patterns, life styles, health, and so forth of the population by levels of education;
- —studies of family life as affected by education;
- —studies of political attitudes and behavior as affected by education;
- —studies of historic episodes in the national life as they may have been affected by education.

Using information of these kinds, I have personally attempted an evaluation of the American system of higher education. A reading of my book on the subject would suggest the kinds of data and the procedures that I believe to be relevant to the task.[6] My experience in this effort has acquainted me with the pitfalls and difficulties in sorting out the effects of higher education from all the other influences affecting the lives of individuals and influencing the course of social change. Nevertheless, I regard the task as feasible. And I believe that the greater accountability and improved decisions that would follow would be well worth the cost. As new insights are revealed, as new data are gathered, and as new analyses are undertaken, firm and persuasive conclusions on the outcomes of national systems of higher education will be possible. I do not expect, however, that valid cost-benefit analysis for higher education will ever be reduced wholly to cardinal numbers corresponding to the profit and loss statements of business enterprises.

FOOTNOTES

1. Tony Becher, Jack Embling, and Maurice Kogan, *Systems of Higher Education: United Kingdom* (New York: ICED, 1978), p. 136.
2. George Psacharopoulous, *Returns to Education: An International Comparison* (San Francisco: Jossey-Bass, 1973); and *Earnings and Education in OECD Countries* (Paris: OECD, 1975).
3. Howard Bowen, *Investment in Learning* (San Francisco: Jossey-Bass, 1977).

4. Kenneth A. Feldman and Theodore M. Newcomb, *The Impact of College on Students*, 2 volumes (San Francisco: Jossey-Bass, 1969), p. 9.
5. C. Robert Pace, *The Demise of Diversity* (Berkeley, California: Carnegie Commission on Higher Education, 1974); C. Robert Pace, *Evaluating Liberal Education* (Los Angeles: Laboratory for Research on Higher Education, University of California, 1974); S.B. Anderson, S. Bell, R.T. Murphy and associates, *Encyclopaedia of Educational Evaluation* (San Francisco: Jossey-Bass, 1975); Paul Dressel, *Handbook of Academic Evaluation* (San Francisco: Jossey-Bass, 1976); and Oscar T. Lenning, *Previous Attempts to Structure Educational Outcomes and Outcome-Related Concepts: A Compilation and Review of the Literature* (Boulder, Colorado; National Center for Higher Education Management Systems, 1977.)
6. Bowen, *op. cit.*

6 COMPARATIVE EFFECTIVENESS OF SYSTEMS: UNKNOWN AND MOSTLY UNKNOWABLE

Clark Kerr

> Higher education has many effects, but whether and particularly to what extent it is independently effective in producing decisive and desired results—that is another question and no one fully knows the answers.

Any current consideration of the comparative effectiveness of systems of higher education is bound to end in failure, but it may be an instructive failure.[1] The reasons for the inevitable failure are mainly these: first, there is no consensus on desired outcomes in many nations—highly planned economies are an exception; and effectiveness must be related to goals. Second, there are many unintended side-effects of higher education even where there is a consensus and some of these side-effects are at least partially hidden from sight and long-delayed in their expression. Some of these side-effects also run counter to desired results. What happens along the way is often more important than the purpose of the journey.

Third, even if there were a consensus on desired outcomes and the side-effects were all readily visible, the data to evaluate them are often nonexistent and, when existent, inadequate. Comparisons among nations and over time in a single nation are extremely difficult even in any single area of evaluation, and impossible over a modest range of areas. Also, most effects have more than one

cause; and most causes have more than one effect. And so, it is very difficult to assign causes to effects, and thus to analyze the origins of effectiveness.

Moreover, systems have quite different roles to play within their nations, and both the systems and the nations may be at quite different levels of historical development. It can even be argued "that one can understand the structure and the functioning of higher education systems only in the context of the society that creates this system of higher education, its economic and political structure as well as its cultural and value systems."[2] Those who strongly adhere to this argument believe that effectiveness consequently must be examined only within nations, and not across nations.

Finally, academics, who study all other institutions of mankind critically and analytically, have been less inclined to study their own. There is only one substantial effort at an overall evaluation of higher education—Howard Bowen's *Investment in Learning: The Individual and Social Value of American Higher Education*[3]—and it applies to only one nation.

Consequently, higher education is more often described than evaluated. We know more about its history, its structure, its governance, its human composition, its instructional content than we know about its consequences. Higher education may seek the truth but largely ignores even the measurable consequences of that search.

Gross Results

All this having been said, there are some broad tests of effectiveness—albeit crude and elemental—that do apply across nations and across time. Systems of higher education:

Endure. Most systems of higher education, once established, have survived, especially those created in modern times. Ancient systems in China, Greece, Rome, and the Islamic world ceased to exist only in the course of cataclysmic changes in the societies that supported them. Universities are among the oldest continuing institutions in Europe and the Americas (Table 1).

Grow. In modern times, the number of institutions within each system has increased substantially, and the institutions have become more diverse (Table 2).

Attract more resources. The percentage of the GNP spent on

higher education is almost universally higher than it was a century ago, half a century ago, even a decade ago.

Attract more students. Student numbers have risen faster than the population as a whole in almost every nation over recent decades (Table 3).

Satisfy their students. What studies there have been on this test—United States, United Kingdom, France, Australia, Sweden, Japan, Germany—all indicate a high level of satisfaction by students with their experience in higher education (Table 4).

Draw public support. To the extent that public opinion data are available (as in the United States), they show higher education to rank among the very top institutions enjoying public confidence (Table 5).

Increase their functions. The functions of institutions of higher education have not only changed in internal definition over time but have been augmented by accretion of new functions with little offsetting diminution.

The overall, long-term record is impressive; matched by that of few other human institutions.

Analytical evaluation of higher education is in a primitive state of development. But higher education itself is not. The evaluation of it, informal and impressionistic as it may have been, by many societies and by numerous individuals can only have been favorable; otherwise, it would not have endured and so expanded its functions. And this is the evaluation that really counts—not the analytical evaluation of the cost-benefit experts with their inadequate data and narrow visions. Moreover, the very fact that the institutions have endured and grown—without economic, political, and military power—attests to their effectiveness.

The expansion of functions is of particular importance to any evaluation of effectiveness both because it implies increasing usefulness and also because it makes evaluation more complex—a single-function institution is easier to test than a multiple-function one.

Expansion of Functions

Institutions change in part as the range of their functions increases or diminishes. Institutions that have diminished in function over recent centuries have been organized religion, the family, and even the business enterprise (as compared with the earlier guild which

generally had more functions to perform than the modern public or private economic enterprise). Institutions that have increased their functions have been, above all, the nation-state but also higher education. For higher education, there are not only more functions but, of at least equal significance, older functions have taken on new and expanded definitions.

Training of skills has moved from the small-scale preparation of persons for the ancient professions, to education of members of social elites, to preparation of high-level civil servants, to training for the fantastic array of modern professions and occupations, to remedial instruction in basic skills for the upwardly mobile. This training once applied to a fraction of 1 percent of the youthful population; now it comprises 20 percent and more in several economically advanced nations.

Conversion of the class structure has changed in emphasis from a combination of perpetuating an hereditary elite while adding gradually to it, to development of a new class—the meritocracy—to reduction of class lines both by helping to create almost infinite gradations of occupations and by serving to narrow income and status differentials in the long run. The last of these contributions is a much more complicated assignment than the first.

Advancement of learning has expanded from preservation and interpretation of the classics, to reformulation of doctrines and ideas, to basic research, to applied research in an ever expanding variety of fields.

Aiding the individual development of students, which once meant instruction aimed at their moral, intellectual, and social growth, has increasingly included developing the students' physical skills and artistic creativity; and, of course, it now serves more students. In nations with a Marxist orientation, individual self-fulfillment is considered to occur only in service to society and this adds another dimension to the personal development of students.

Providing public service, where it has been undertaken, has come to include advice on an ever broader range of technical and social issues, and concern for the interests of a wider range of non-campus constituencies.

Contributing to social justice in the form of providing wider access for women, for members of lower income groups, and for minorities is a rapidly expanding responsibility of higher education in a substantial number of nations. This function entails a respon-

sibility for finding and advancing talent whatever its social points of origin, and sometimes includes a responsibility for providing compensatory equality of opportunity.

Undertaking a residual responsibility for unattached youth is an actual function in a few nations and is just developing in others. The need to provide a location for activity for unemployed or otherwise unattached youth is a function more recognized in practice than in official rhetoric. In several countries, student enrollments tend to increase when jobs are less available and to decrease when the labor market is able to absorb larger numbers of inexperienced youth. This counter-cyclical function of higher education occurs partly by design and partly because of market forces.

Adding to quality of life takes many forms and higher education makes a contribution in at least two ways: by providing "durable consumer goods" to be enjoyed by students throughout their lifetimes in the form of skills, interests, and life orientations; and by providing current consumer services that result in satisfaction with aspects of life related to the educational environment.

Encouraging social change is a result of higher education and thus a function in fact if not an officially acknowledged goal in many circumstances. Social change comes about as a result of several of the functions already noted: by raising the general level of skills and knowledge; by creating technicians and experts to help operate society at higher and higher levels of complexity; by helping to transfer top leadership to trained professionals and away from the earlier hereditary or politically identified elites; by reordering the class structure of society; by adding new knowledge and disseminating it; by advancing social justice; and by adding to the quality of life of individuals which, in turn, results in new consumer demands for goods and services. Some systems directly use higher education to obtain social changes. In Poland and in other communist countries, there is a direct effort to develop a "new man." In Sweden, students are prepared to participate in and to accept change, and also to become and to view themselves as citizens of the world. Among the side-effects of higher education, when permitted, are introduction of new forms of cultural behavior and participation in political efforts directed at a fundamental reordering of the social structure whatever it may be.

If being of more use to more people in more complicated ways is one aspect of effectiveness, then higher education has been be-

coming more effective in more nations around the world in recent decades. In terms of the breadth and depth of functions performed, systems of higher education may be classified as follows:

- —elementary functions, particularly skill training, in developing countries such as Iran, Mexico, and Thailand;
- —centrally planned functions, as in Poland, with particular attention to skill training, development of "socialist man," and pursuit of social justice in attendance patterns. (In Sweden, "consensus" is substituted for a plan but is much less confining);
- —functions limited by official choice, as in France and Japan, where research is mostly carried on outside the universities;
- —functions partially limited by internal choice, as in Germany and the United Kingdom, where the parameters of the systems are defined in part by attachment to historic academic orientations that act as constraints;
- —functions increasingly responsive, at least in some segments of the system, to consumer demand, as in the United States, Canada, and Australia.

The most effective systems may be those which have the most constructive impacts on the greatest proportion of the population and on the life of the nation; these are the systems to which societies, formally and informally, have given the greatest responsibilities. This is the ultimate overall test of effectiveness.

Specific Tests of Effectiveness

Some goals of individual systems are not subject, by their very nature, to comparative evaluation. For example, it is not possible to compare "individual development" with "socialist development" of students in any meaningful way; or, except by observation, to compare the capacity to transmit desired cultural patterns, since these patterns vary so substantially. Furthermore, we cannot realistically compare effectiveness in attaining social change, since some systems want one kind of change and others another and some none at all; or the impact on the quality of life since "quality" is subject to so many different interpretations; or the adequacy of public services since the services desired vary so greatly; or the discharge of any residual responsibility for youth since in some nations this is assigned to other agencies or is not assigned at all; or the diversity within systems which

depends so greatly on their size and on the span of their functions as well as on the choice of unitary, binary, or pluralistic approaches. This eliminates vast areas of great importance where evaluation may be possible within a single nation or among two or more highly comparable nations but not on a broadly comparative basis.

Some other possible tests must also be rejected. One test, within some systems, is the drop-out rate — with a low drop-out rate considered better than a high one, but this test can easily be manipulated by lowering standards. Also, elite systems will always win this test and open-access systems always lose it. Another test of effectiveness might be to measure the system's net contribution to the GNP but it is technically not possible, despite valiant attempts, to apply this test either by estimating "residuals," of which training in higher education is only one of several; or contributions to "advancement of knowledge," of which higher education within a nation is only one source; or by calculating "social returns" to higher education, which are based on quite different wage and salary structures some of which, at least in part, do not reflect productivity. Other suggested tests have been the degree of integration of higher education with primary and secondary education and the degree of consistency with the economy and polity — with the assumption that the greater the integration and consistency, the better; but some systems are designed to work with less precise integration and less complete consistency and prefer it that way. A most attractive evaluative mechanism would be tests of student competence, as pioneered so successfully at lower levels of education by Torsten Husén,[4] but postsecondary education has so many diverse patterns of study that competence tests are much more difficult to devise and administer than at lower levels where subject matter is much more uniform. Still, such tests may become a basis for evaluation to some extent in the future.

Nevertheless, there are some specific tests of effectiveness that might be applied to the extend that data are available:

- percent of GNP drawn into support of its functions by higher education in competition with other segments of society (Table 6);
- total enrollments, full-time and part-time, as a percentage of the age cohort, as an indication of choices in the expenditure of time and of opportunities available (Table 7);
- distribution of enrollments by sex (Table 8), by socioeconomic

status (Table 9), by ethnic and racial origin, by geographical location, by age, as a test of equality of access;
- percentage of the most qualified young persons academically (say the top 10 percent or 20 percent) drawn into the system of higher education, as an indication of the success of the talent hunt;
- voluntarily expressed satisfaction by students;
- voluntarily expressed confidence by the public at large;
- surpluses and deficits in the provision of trained manpower;
- contribution to the narrowing of income and status differentials as between graduates of institutions of higher education and all employed persons;[5]
- the national origins of decisive new ideas in the sciences and social sciences (Table 10).

This list constitutes more an agenda for research than a statement of what is known.

There are dangers, however, in all such attempts. Many important areas of evaluation are not subject to quantification. When some areas are quantified and others are not, there is a tendency to emphasize the first and neglect the second, and this leads to imbalance in evaluation and possibly in actions. Knowing half of the truth can lead to ill-founded policies and actions. Also, setting up quantifiable tests can lead to efforts to satisfy these quantities, one way or another, including in some cases by reduction of quality. These all can lead to a new kind of "numerology" and "numerology easily leads to suboptimization."[6]

Concluding Impressions

A review of the country studies prepared for ICED and other related materials leads to the following impressions. First, the generally best performed function is provision of trained manpower. There seems to be some tendency to over-produce lawyers in early stages of development and to under-produce "hard" scientists and technicians; but, overall, manpower needs of industrializing and industrialized societies are met. One reason for this is the flexibility of humans in the use of their talents. An exception to the general rule of adequacy in supplying trained manpower occurs in some very rapidly developing economies, such as Iran.

The function most subject to widespread attention at the present

time is advancement of social justice. In many nations, intensified efforts are being made to draw in once neglected groups of students.

A function claiming constantly more attention in a number of nations is quality of life. This leads away from the historic attention to the production aspects of higher education and toward the consumption aspects.

Another function claiming more attention is contribution to social change, whether in the form of "affirmative action" as in the United States, or inculcation of global perspectives as in Sweden.

The research function in higher education on a world-wide basis is largely concentrated in a few countries — particularly the United States, the United Kingdom, Germany, France, Sweden, Russia, and Switzerland. Some nations cannot afford their own basic or even applied research on any substantial scale (the LDCs); others largely borrow basic research from abroad (Japan). Some concentrate basic research in an academy or in other agencies (France and Poland).

In almost all nations, postsecondary education is becoming an increasingly major route for youth to enter adult life. The functions of higher education will continue to expand secularly since greater knowledge and higher skills (along with new social structures) are the main ways in which human evolution now takes place.

Qualitative impressions of broad contributions of systems of higher education are more useful than quantitative tests of specific results. Evaluative efforts of whatever sort, however, will always end up as an "instructive failure;" but along the way they do instruct in the different natures of national systems, in the importance of the different stages of national development, in the inherent complexity of evaluating multipurpose institutions, in the paucity of our specific knowledge, and in the inadequacy of our tools of analysis — a valuable lesson in humility.

The most needed new set of functions includes the development of a global perspective for students, the creation of mechanisms on national and international levels for studying global problems — almost every great national problem today has a global aspect — and the encouragement of intellectual frameworks which can encompass an analysis of world systems and deal with the future in terms of broad interrelationships, as against the current fragmentation of knowledge into what Bertrand Russell once called "fiercer specialisms." This will require a great leap forward. The world needs, as never before, an international community of scholars

working on world problems. The ultimate test of the effectiveness of higher education may well come to be its effectiveness at the world, not the national, level, for as Torsten Husén notes: "The academic ethos implies univeralism."[7] Finally, efforts to evaluate effectiveness might possibly signal a period of at least temporary stasis: "A culture is in its final flower before it begins to analyze itself."[8]

TABLE 1
Enduring Universities of the Western World

Founded	
Before 1100:	Medical school at Salerno (suppressed by Napoleon, 1811; present university founded 1944)
Before 1200:	Bologna
	Paris
	Oxford
Before 1300:	Cambridge
	Montpellier
	Angers (refounded 1875 and 1970)
	Toulouse
	Palencia (moved to Salamanca, 1239)
	Valladolid
	Salamanca
	Reggio (ceased before 1300)
	Lisbon-Coimbra
	Vicenza (ceased before 1300)
	Arezzo (ceased before 1300)
	Padua
	Naples
	Vercelli (ceased before 1400; supplanted by Turin, 1500)
	Siena
	Piacenza (ceased in early 1400s)
Before 1400:	Avignon[1]
	Cahors (combined with Toulouse, 1751)
	Grenoble
	Orange (disappeared early in 18th century)
	Orleans
	Lerida (moved to Cervera, 1717)
	Perpignan[1] (refounded 1970)
	Huesca[1]
	Rome
	Perugia
	Treviso (lasted only about one year)

Pisa (ceased before 1400; refounded 1472)
Florence
Pavia
Ferrara
Prague
Vienna
Erfurt
Heidelberg
Cologne
Cracow
Pécs (or Fünkirchen) (ceased before 1465)
Buda
Aix
Cole (transferred to Besanczon by 1691)
Poitiers
Caen
Bordeaux
Valence (abolished during French Revolution)
Nantes (later Rennes)
Bourges (abolished during French Revolution)
Besanczon
Barcelona
Saragossa
Palma (now has branch of University of Barcelona)
Alcalá (moved to Madrid, 1836)
Siguenza[1]
Valencia
Turin
Catania
Wurzburg
Leipzig (now Karl Marx University)
Rostock
Louvain
Trier[1] (Catholic theological faculty refounded, 1950)
Griefswald
Freiburg (Albert Ludwig University)
Basel
Ingolstadt (later Munich)
(Ludwig Maximilian University)
Mainz (Johannes Gutenberg University)
Tübingen (Eberhard Karl University)
Pressburg (now Bratislava)
Uppsala
Copenhagen
St. Andrews
Glasgow
Aberdeen

Notes to Table 1 follow at the bottom of the next page.

TABLE 2
Growth of Higher Education Systems Since 1950

Country	Number of Higher Education Institutions 1950	1975
Australia	175	279
Canada	181	256
France	N.A.	110[2]
Germany (West)	136	235
Iran	9	70
Japan	555	999
Mexico	12[1]	208
Poland	64	89
Sweden	16	132
Thailand	8	135
United Kingdom	207	300
United States	1,851	3,026

Sources: For 1950: UNESCO's *World Survey of Education;* for 1975: ICED country study manuscripts. *Grandes écoles* (France) counted from Organisation for Economic Cooperation and Development, *Educational Policy and Planning: France,* Paris, 1972.

1. Data available for universities only.
2. Does not include *grandes écoles;* total approximately 282, with *grandes écoles.*

Notes to Table 1

Sources: Hastings Rashdall, *The Universities of Europe in the Middle Ages,* a new edition in three volumes edited by F.M. Powicke and A.B. Emden, (Oxford University Press, 1936), volumes 1 and 2; and *The Encyclopaedia Britannica,* 15th edition.

1. Original university not in existence; date of disappearance not established.

TABLE 3
Students Enrolled in Higher Education
as % of Total Population

Country	1965	1975
Australia	1.2	5.8 (1976)
Canada	1.9	3.5[1](1976)
France	1.1	1.9
Germany (West)	0.7	1.4
Iran	0.2 (1967)	0.5 (1976)
Japan	1.1	1.9 (1976)
Mexico	0.3	0.9
Poland	0.8[2]	1.4
Sweden	0.9	1.3[2]
Thailand	N.A.	0.6
United Kingdom	0.6	1.0
United States	3.0	5.2

Sources:

1965 enrollments and population: *UNESCO Statistical Yearbook, 1970*, Paris, 1971, Tables 2.13 and 1.1

1975:

Australia: Calculated from data in Bruce Williams, *Systems of Higher Education: Australia*, (New York: ICED, 1978), especially Table 6.

Canada: Calculated from data in Edward Sheffield, *et al.*, *Systems of Higher Education: Canada* (New York: ICED, 1978).

France: Calculated from data in A. Bienaymé, *Systems of Higher Education: France* (New York: ICED, 1978), and in *World Almanac, 1977*.

Germany: Calculated from data supplied by ICED country study directors and in *World Almanac, 1977*.

Iran: Samii *et al.*, *Systems of Higher Education: Iran* (New York: ICED, 1978).

Japan: Calculated from data supplied by Katsuya Narita, ICED study director for Japan and in *World Almanac, 1977*.

Mexico: Calculated from A. Guerra, *Systems of Higher Education: Mexico* (New York: ICED, 1978), Table 3, and in *World Almanac, 1977*.

Poland: Calculated from data in J. Szczepański, *Systems of Higher Education: Poland* (New York: ICED, 1978), and in *World Almanac, 1977*.

Sweden: Calculated from data in Premfors and Östergren, *Systems of Higher Education: Sweden* (New York: ICED, 1978) and in *World Almanac, 1977*.

Thailand: Calculated from data supplied by Sippanondha Ketudat, ICED study director for Thailand and in *World Almanac, 1977*.

United Kingdom: Calculated from data in Becher *et al.*, *Systems of Higher Education: United Kingdom* (New York: ICED, 1978), and from *World Almanac, 1977*.

United States: Calculated from data from U.S. Bureau of the Census, *Current Population Reports*, Series P-25. No. 643, and from Pifer *et al.*, *Systems of Higher Education: United States* (New York: ICED, 1978).

1. Does not include part-time students in nonuniversity institutions.
2. University-type enrollments only.

TABLE 4
Student Satisfaction with Education

Country	"Satisfied" and "More or Less Satisfied"[1] %	"Dissatisfied" and "More or Less Dissatisfied" %	No Answer[2] %
Australia	82	17	2
France	62	35	4
Germany (West)	76	18	6
Japan	63	33	4
Sweden	80	16	4
United Kingdom	55	7	38
United States	84	16	1

Source: Youth Research Institutions, survey on "Consciousness of Youth in the World," sponsored by the Prime Minister's Office, Tokyo, Japan, 1977.

1. The question asked was, "Are you satisfied with your school life or not?" Respondents were eighteen to twenty-four years old.
2. Totals may not add up to 100 because of rounding.

TABLE 5
Public Confidence in Higher Education, United States

"As far as people in charge of running higher education are concerned, would you say you have a great deal of confidence, only some confidence, or hardly any confidence at all in them?"

Year	Great Deal of Confidence
	%
1966	61
1975	36
1976	31
1977	41

Source: Louis Harris and Associates, New York.

"Do you have 'a lot of,' 'some,' or 'not much' confidence in universities and colleges?"

Year	A Lot of Confidence	Some Confidence	Not Much Confidence
	%	%	%
1973	25	62	11[1]
1975	28	43	24
1976	27	47	18
1977	32	48	13

Source: San Francisco *Chronicle*, May 12, 1977, p. 12.

1. "No opinion" accounts for the difference between the sum of each row of figures and 100%.

TABLE 6
Percent of GNP Spent on Higher Education

Country	% GNP Spent on Higher Education	Year
Australia	2.2	1975
Canada	2.2	1976
France	0.8	1975
Germany (West)	1.3	1975
Iran	N.A.	N.A.
Japan	1.0	1973
Mexico	1.0	1976
Poland	1.2	1977
Sweden	0.7	1975
Thailand	0.6	1975
United Kingdom	1.5	1971
United States	3.0	1975

Sources:

Australia: Bruce Williams, *Systems of Higher Education: Australia* (New York: ICED, 1978), p. 8.

Canada: Edward Sheffield *et al.*, *Systems of Higher Education: Canada* (New York: ICED, 1978), Table 1.

France: Asa S. Knowles, editor-in-chief, *International Encyclopedia of Higher Education* (San Francisco: Jossey-Bass, 1977), p. 1772.

Germany: Hansgert Peisert, *Systems of Higher Education: Federal Republic of Germany* (New York: ICED, 1978), Appendix Table 2.

Iran: Because the figure fluctuates wildly from year to year, it has not been included. See Samii *et al.*, *Systems of Higher Education: Iran* (New York: ICED, 1978), Tables 3 and 7.

Japan: Data from Katsuya Narita, Director of ICED Japan Study, 1978. (Includes attached research institutes and hospitals.)

Mexico: Estimated from data in A. Rangel Guerra, *Systems of Higher Education: Mexico* (New York: ICED, 1978), Table VII, and from *The World Almanac, 1977*.

Poland: Estimated from data in J. Szczepański, *Systems of Higher Education: Poland* (New York: ICED, 1978), and from United Nations *Statistical Yearbook for 1976* (New York, 1977), p. 646.

Sweden: R. Premfors and B. Östergren, *Systems of Higher Education: Sweden*, (New York: ICED, 1978). Appendix Table A-2.

Thailand: Sippanondha Ketudat, *Systems of Higher Education: Thailand* (New York: ICED, 1978), Table II.10.

United Kingdom: T. Becher *et al.*, *Systems of Higher Education: United Kingdom* (New York: ICED, 1978), p. 1.

United States: Computed from data in U.S. National Center for Education Statistics, *Digest of Educational Statistics, 1976 edition* (Washington, D.C.: U.S. Government Printing Office, 1977), pp. 23 and 25.

TABLE 7
Total Higher Education Enrollment as % of College-Age Cohort

Country	% Enrolled
Australia (17-22)	19 (1976)
Canada (18-24)	32 (1976)
France (18-23)	20 (1975)
Germany (West) (18-24)	14 (1975)
Iran (20-24)	2 (1976)
Japan (18-24)	17 (1976)
Mexico (20-24)	14 (1975)
Poland (20-24)	14 (1975)
Sweden (19-22)	25 (1974)
Thailand (19-22)	4 (1975)
United Kingdom (18-22)	14 (1974)
United States (18-24)	40 (1975)

Sources:

Australia: Bruce Williams, *Systems of Higher Education. Australia* (New York: ICED, 1978), Table 1.

Canada: Information from Edward Sheffield, director of ICED Canada study, 1978.

France: Calculated from data in Alain Bienaymé, *Systems of Higher Education: France* (New York: ICED, 1978), and in I. Hecquet, C. Verniers, L. Cerych, *Recent Student Flows in Higher Education* (Paris: European Cultural Foundation, 1976).

Germany: Information from Hansgert Peisert, director of ICED German study, 1978.

Iran: Computed from data in Abdol Hossein Samii, M. Reza Vaghefi, and Dariush Nowrasteh, *Systems of Higher Education: Iran* (New York: ICED, 1978), and from Iran Embassy information office, Washington, D.C.

Japan: Information from Katsuya Narita, director of ICED Japan study, 1978.

Mexico: Calculated from data in A. Rangel Guerra, *Systems of Higher Education: Mexico* (New York: ICED, 1978), Tables 1 and 3.

Poland: Calculated from data in J. Szczepański, *Systems of Higher Education: Poland* (New York: ICED, 1978), and in *Statistical Yearbook 1977 (Roeznik Statystyezny)*, Warsaw, 1977.

Sweden: Asa S. Knowles, editor-in-chief, *International Encyclopedia of Higher Education* (San Francisco: Jossey-Bass, 1977), p. 4023.

Thailand: Information from Sippanondha Ketudat, director of ICED Thailand study, 1978. (Undergraduate university enrollment only.)

United Kingdom: Calculated from data in T. Becher *et al.*, *Systems of Higher Education: United Kingdom* (New York: ICED, 1978), and from Hecquet *et al. op. cit.*

United States: John Millett, "Planning and Management in National Structures," *12 Systems of Higher Education: 6 Decisive Issues*, (New York: ICED,1978).

TABLE 8
Equality of Access by Sex

	% Male	% Female	Year
Australia	51	49	1975
Canada	53	47	1976
France	52	48	1976
Germany (West)	64	36	1975
Iran	63	37	1975
Japan	70	30	1973
Mexico	78	22	1971
Poland	51	49	1975
Sweden	55	45	1975
Thailand	58	42	1975
United Kingdom	61	39	1974
United States	55	45	1975

Sources:

International Council for Educational Development, *Systems of Higher Education*, country studies (or calculated from data in country studies) for Australia, Iran, Poland, Thailand, United Kingdom, and United States. Information from director of country study for Canada, Germany, and Sweden.

France: *Higher Education in Europe*, Vol III/No. 1 (January-February 1978), p. 15.

Japan: I. Hecquet, C. Verniers, and L. Cerych, *Recent Student Flows in Higher Education* (Paris: European Cultural Foundation, 1976).

Mexico: *UNESCO Statistical Yearbook, 1975* (Paris, 1976).

TABLE 9
Equality of Access by Socioeconomic Status
(in percent)

		Socio-occupational Category[1]				
Country	**Year**	**A**	**B**	**C**	**D**	**E**
England and Wales	1961	61.0	13.0	—	—	26.0
	1970	46.0	27.0	—	—	27.0
France	1960	55.2	34.4	5.8	—	4.6
	1968	47.0	30.7	6.3	—	11.9
Germany (West)	1961	34.2	29.0	3.6	14.7	5.4
	1970	26.2	35.7	4.2	14.3	12.6
Sweden	1950	55.0	39.0	—	—	6.0
	1960	48.0	39.0	—	—	13.0
	1968	40.0	37.4	—	—	22.6

Source: Jean-Pierre Pellegrin, "Quantitative Trends in Post-Secondary Education, 1960-1970," *Towards Mass Higher Education: Issues and Dilemmas* (Paris: Organisation for Economic Co-operation and Development, 1974), Table 12.

1. Classification: A = upper stratum
B = middle stratum
C = independent agriculture
D = other independent
E = lower stratum

TABLE 10
Research Accomplishments in the Natural and Social Sciences

Nobel Prizes in Natural Sciences 1930–1975					Origins of Social Science Breakthroughs				
102								53	United States
	43						17		Great Britain
		23				10			Germany
			7			5			Russia
			7			2			France
			6			2			Switzerland
			5			1			Sweden
				3	Denmark				
				2		4			Austria
				2		1			Italy
				2	Argentina				
				2	Australia				
				2	Belgium				
				2	Japan				
				2	The Netherlands				
				1		1			Czechoslovakia
				1		1			India
				1	Canada				
				1	Finland				
				1	Hungary				
				1	Ireland				
				1	Norway				
				1	Portugal				
						1			Chile
						1			China
						1			South Africa
120	100	40	20	0	20	60	80	100	

Source. For origins of social science breakthroughs: K.V. Deutsch, J. Platt, and D. Senghass, "Conditions Favoring Major Advances in Social Science," *Science*, (1971), pp. 450-59.

FOOTNOTES

1. Melvin M. Tumin writes of his attempt with Marvin Bressler, "to create a model for the measurement of the effectiveness of educational systems" and of how it ended in "failure, albeit an instructive one." ("Evaluation of the Effectiveness of Education," *Interchange*, Vol. 1, No. 3 (1970).
2. Jan Szczepański, *Higher Education in Eastern Europe*, International Council for Educational Development, Occasional Paper Number 12, 1974, p.5.
3. Howard Bowen, *Investment in Learning* (San Francisco: Jossey-Bass Publishers, 1977).
4. See the nine volume report of the IEA Six Subject Survey, conducted from 1966 to 1976 by the International Association for the Evaluation of Educational Achievement and published by Almquist and Wiksell International (Stockholm) and by John Wiley and Sons (New York) as *International Studies in Evaluation* (individual authors and titles vary).
5. See, for example, the study of the Netherlands by Jan Tinbergen, "Education, Inequality and Life Chances: A Report on the Netherlands," OECD, *Education, Inequality and Life Chances*, Vol. II (Paris, 1975), pp. 404-26.
6. Kenneth F. Boulding, "In Praise of Inefficiency," *Association of Governing Boards Reports*, Vol. 20, No. 1 (January-February, 1978), pp. 44-48.
7. Torsten Husén, "The Community: Its Nature and Responsibilities," in *Higher Education in the World Community*, edited by Stephen K. Bailey (Washington, D.C.: American Council on Education, 1977), p. 198.
8. Alfred North Whitehead, *Dialogues of Alfred North Whitehead*, as recorded by Lucien Price (Boston: Little, Brown, 1954), p. 16.

APPENDIX

Statements on Goals

Ideals of Old Greek Education.

"In the Homeric period educational institutions were not distinct; the council and the camp furnished all higher education. The ideal of education was twofold: the man of valor, typified by Achilles; the man of wisdom, by Odysseus."

"The character and organization of Old Greek education is determined by the city state. This institution furnished the basis and ideals of education, as did the family with the Chinese and the theocracy with the Hebrews."

"...Nobility or virtue, whatever was the stage of its development, constituted the basis of social organization, and at the same time the ideal of achievement of every citizen or prospective citizen. This idea of virtue, or nobility, then, constituted the aim or purpose of education."

Paul Monroe, *Source Book of the History of Education for the Greek and Roman Period* (New York: Macmillan, 1926). pp. 2-4.

Plato on the Purposes of Education

"What is this education to be, then? Perhaps we shall hardly invent a system better than the one which long experience has worked out, with its two branches for the cultivation of the mind and of the body."

• • •

"Perhaps the purpose of the two established branches of education is not...the improvement of the soul in one case and of the body in the other. Both, it may be, aim chiefly at improving the soul."

"How so?"

"Have you noticed how a life-long devotion to either branch, to the exclusion of the other, affects the mind, resulting in an uncivilized hardness in the one case, and an over-civilized softness in the other?"....."A proper training would produce courage; but if that element is overstrained, it naturally becomes hard and savage. Gentleness, on the other hand, is characteristic of the philosophic disposition. Here again, too much relaxation will result in oversoftness; the right training will produce a gentleness that is steady and disciplined. Now we agree that our Guardians must combine both these dispositons; and they will have to be harmonized so that courage and steadfastness may be united in a soul that would otherwise be either unmanly or boorish."

• • •

"There are, then, these two elements in the soul, the spirited and the philosophic; and it is for their sake...that heaven has given to mankind those two branches of education. The purpose is to bring the two elements into tune with one another by adjusting the tension of each to the right pitch. So one who can apply to the soul both kinds of education blended in perfect proportion will be master of a nobler sort of musical harmony than was ever made by tuning the strings of the lyre."

The Republic of Plato, translated with introduction by Francis Macdonald Cornford (New York & London: Oxford University Press, 1945), pp. 68, 100-102.

Aristotle's Aims for Education

". . . All art and education aim at filling up nature's deficiencies."

"It is clear then that there should be legislation about education and that it should be conducted on a public system. But consideration must be given to the question, what constitutes education and what is the proper way to be educated. At present there are differences of opinion as to the proper tasks to be set; for all peoples do not agree as to the things that the young ought to learn, either with a view to virtue or with a view to the best life, nor is it clear whether their studies should be regulated more with regard to intellect or with regard to character. . . . It is not at all clear whether the pupils should practise pursuits that are practically useful, or morally edifying, or higher accomplishments — for all these views have won the support of some judges; and nothing is agreed as regards the exercise conducive to virtue, for to start with all men do not honour the same virtue, so that they naturally hold different opinions in regard to training in virtue."

• • •

"So that it is clear that some subjects must be learnt and acquired merely with a view to the pleasure in their pursuit, and that these studies and these branches of learning are ends in themselves, while the forms of learning related to business are studied as necessary and as means to other things."

• • •

"It is clear therefore that there is a form of education in which boys should be trained not because it is useful or necessary but as being liberal and noble; though whether there is one such subject of education or several, and what these are and how they are to be pursued, must be discussed later. . . ."

Politics, Book VII, sec. XV;
Book VIII, secs. I and III.

Goals of Confucian Education in China

The system of education which grew out of Confucianism:

- "instilled gentlemanly attitudes which in turn helped to perpetuate a public servant *elite*"
- "taught morals by teaching manners"
- "moulded behavior through etiquette"
- pursued the "notion that manners (signifying virtue) and classical culture (signifying a well-tuned mind) were better credentials for leadership than any amount of expert, practical training."

Rupert Wilkinson, *Gentlemanly Power* (London & New York: Oxford University Press, 1964), pp. 125-126.

Educational Aims of St. Ignatius of Loyola and the Jesuits

"Since the direct objective at which the Society aims is to help the souls of its members and of the neighbor to attain to the final end for which they were created, and since in addition to setting a good moral example, learning and methods of presenting it are necessary for the attaining of this end, therefore...the education in letters and of the manner of utilizing them, so that they can aid to a better knowledge and service of God, our Creator and Lord, will be treated." (Preamble)

"...Because there are comparatively few people who are good and at the same time learned; and since of this number the greater part wish to rest from the labors which they have undertaken, we can see that it is going to be extremely difficult for the Society to be increased in number by men of this calibre, who are at once good and lettered.... Therefore we who are interested in the preservation and increase of the Society to the greater praise and service of God and our Lord, must hold a different course, that of admitting mere youths, who by their native disposition give promise of a good character and intellect, so that they may develop into upright and learned men for the purpose of cultivating the vineyard of Christ our Lord; and of undertaking the college under those conditions which are contained in the Apostolic Letters, in the universities (if they are out of college), whether or not these universities be conducted by the Society. By this reasoning we are convinced in the Lord that it would be for the greater worship of the Divine Majesty, if those who are to devote

themselves entirely to this service were increased in number and if they made progress in letters and virtue." (Explanation A)

"The same reason of charity by which colleges are accepted in the Society and public schools are established not only for the edification of our own in learning and morals, but also for outsiders, can be extended to justify the undertaking of universities, so that in them greater fruit may be gathered and more influence may be exercised both in the sciences which are taught and in the individuals who come to the universities, and in the degrees to which they are promoted: so that what they have learned well here for the glory of God, they can teach elsewhere with authority." (Ch. XI)

"Since the aim of the Society and of its pursuits is to help the neighbor to a knowledge and love of God and to the salvation of their souls, and since for this end the chief means is the faculty of theology, the universities of the Society will lean most heavily upon this department, and it will treat thoroughly through suitable professors what pertain to scholastic doctrine and to the Sacred Scriptures and even as much of positive theology as is appropriate to our end....

"And since instruction in theology and in the application of it...demands a knowledge of the humane letters both Latin and Greek and of the Hebrew tongue, suitable professors in these subjects also, and in sufficient numbers, shall be secured."

"So, since the arts and natural sciences dispose the mind for theology, and serve to perfect its knowledge and application and of themselves help toward the same end, let them be treated with whatever diligence is proper and by learned professors, seeking in all things sincerely the honor and glory of God." (Ch. XII)

The Constitutions of the Society of Jesus, Part IV (1556), in Edward A. Fitzpatrick, ed., *St. Ignatius and the Ratio Studiorum* (New York: McGraw-Hill Book Co., 1933), pp.49, 50, 97, and 100-01.

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Purposes for which Harvard College was Founded, 1636

"*New Englands First Fruits:* In respect of the College, and the proceedings of Learning therein."

"After God had carried us safe to New England, and we had builded our houses, provided necessaries for our livelihood, rear'd convenient places for Gods worship, and setled the Civill Government: One of the next things we longed for, and looked after was to advance Learning and Perpetuate it to Posterity; dreading to leave an illiterate Ministery to the Churches, when our present Ministers shall lie in the Dust."

Reprinted in Samuel Eliot Morison, *The Founding of Harvard College* (Cambridge, Mass.: Harvard University Press, 1935), p. 432.

Benjamin Franklin's Aims for Education, 1749

"The good Education of Youth has been esteemed by wise Men in all Ages, as the surest Foundation of the Happiness both of private Families and of Commonwealths. Almost all Governments have therefore made it a principal Object of their Attention, to establish and endow with proper Revenues, such Seminaries of Learning, as might supply the succeeding Age with Men qualified to serve the Publick with Honour to themselves, and to their Country."

• • •

"As to their Studies, it would be well if they could be taught *every Thing* that is useful, and *every Thing* that is ornamental: But Art is long, and their Time is short. It is therefore propos'd that they learn those Things that are likely to be *most useful* and *most ornamental.* Regard being had to the several Professions for which they are intended."

"Proposals Relating to the Education of Youth in Pennsylvaina," in Robert Ulich, ed., *Three Thousand Years of Educational Wisdom* (Cambridge, Mass.: Harvard University Press, 1954), pp. 442-44.

"But of the views of this law none is more important, none more legitimate, than that of rendering the people the safe, as they are the ultimate, guardians of their own liberty. For this purpose the reading in the first stage, when *they* will receive their whole education, is proposed, as has been said, to be chiefly historical: History, by apprizing them of the past, will enable them to judge of the future; it will avail them of the experience of other times and other nations; it will qualify them as judges of the actions and designs of men; it will enable them to know ambition under every disguise it may assume; and knowing it, to defeat its views."

Notes on the State of Virginia, 1785,
in James B. Conant, *Thomas Jefferson and the Development of American Public Education* (Berkeley & Los Angeles: University of California Press, 1962), p. 8.

Jefferson argued that each student at the University of Virginia should attend only those lectures he wanted to hear, that the University should not follow the usual pattern of a prescribed curriculum, and that it was not the business of the trustees but the professors to select texts for student use. However, he thought there was one area in which the trustees had more expertise than any professors and in which, therefore, the trustees ought to prescribe the curriculum and texts — that was the area of "the principles of government which shall be inculcated." He wanted to be sure "that none shall be inculcated which are incompatible with those on which the Constitution of this State, and of the United States were genuinely based, in the common opinion; and for this purpose it may be necessary to point out specially where these principles are to be found legitimately developed:

> "Resolved, that it is the opinion of this Board that as to the general principles of liberty and the rights of man, in nature and in society, the doctrines of Locke, in his 'Essay concerning the true original extent and end of civil government,' and of Sidney in his 'Discourses on government,' may be considered as those generally approved by our fellow citizens of this, and the United States, and that on the distinctive principles of the government of our

State, and of that of the United States, the best guides are to be found in, 1. The Declaration of Independence, as the fundamental act of union of these States. 2. The book known by the title of 'The Federalist,' being an authority to which appeal is habitually made by all.... 3. The Resolutions of the General Assembly of Virginia in 1799 on the subject of the alien and sedition laws, which appeared to accord with the predominant sense of the people of the United States. 4. The valedictory address of President Washington, as conveying political lessons of peculiar value. And that in the branch of the school of law, which is to treat on the subject of civil polity, these shall be used as the text and documents of the school...."

Minutes of the Board of Visitors of the University of Virginia, March 4, 1825, in Gordon C. Lee, ed., *Crusade Against Ignorance: Thomas Jefferson on Education*, Classics in Education, No. 6 (New York: Teachers College Press, Columbia University, 1961), pp. 136-7.

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Humboldt's Idea of a University, c. 1810

"The concept of higher institutions of learning as the summit where everything that happens directly in the interest of the moral culture of the nation comes together, rests on such institutions being designed as places where learning in the deepest and widest sense of the word (Wissenschaft) may be cultivated, and where the contents of learning, produced not with the intention of serving education, but being naturally best suited for it, may be given over to the nation's mental and moral education.

Their function therefore consists in the inward relating of objective learning to subjective education, and in the outward connection of a student's completed schooling to his independent study—or rather to aid in the transition between them. But the main standard of reference remains learning itself. For if it remains pure, it will be properly applied as a whole, disregarding individual deviations.

Inasmuch as all such institutions can attain their purpose only by continual confrontation with the pure idea of learning, the principles ruling their administration are isolation and freedom. Since, however, human spiritual activity, like any other, only flourishes under cooperation...the inward organization of these institutions must produce and maintain an uninterrupted cooperative spirit, one which again and again inspires its members, but inspires them without forcing them and without specific intent to inspire.

"It is a further characteristic of higher institutions of learning that they treat all knowledge as a not yet wholly solved problem and are therefore never done with investigation and research....What are called higher institutions of learning are therefore, if we divorce them from the outer form they assume in their relation to the government, nothing other than the spiritual life of those human beings who are moved by external leisure or internal pressures toward learning and research."

"On the relative merits of higher institutions of learning," in *Humanist Without Portfolio: An Anthology of the Writings of Wilhelm von Humboldt*, translated from the German with an Introduction by Marianne Cowen (Detroit: Wayne State University Press, 1963), pp. 132-33.

Yale Report, 1828

"What then is the appropriate object of a college? It is not necessary here to determine what it is which, in every case, entitles an institution to the *name* of a college. But if we have not greatly misapprehended the design of the patrons and guardians of this college its object is to *lay the foundation* of a *superior education:* and this is to be done, at a period of life when a substitute must be provided for *parental superintendence*. The ground work of a thorough education, must be broad, and deep, and solid. For a partial or superficial education, the support may be of looser materials, and more hastily laid.

"The two great points to be gained in intellectual culture, are the *discipline* and the *furniture* of the mind; expanding its powers, and storing it with knowledge. The former of these is, perhaps, the more important of the two. A commanding object, therefore, in a collegiate course, should be, to call into daily and vigorous exercise the faculties of the student. Those branches of study should be prescribed, and those modes of instruction adopted, which are best calculated to teach the art of fixing the attention, directing the train of thought, analyzing a subject proposed for investigation; following, with accurate discrimination, the course of argument; balancing nicely the evidence presented to the judgment; awakening, elevating, and controlling the imagination; arranging, with skill, the treasures which memory gathers; rousing and guiding the powers of genius."

Report of the faculty of Yale College, 1828,
edited version in Richard Hofstadter and
Wilson Smith, eds., *American Higher Education:*
A Documentary History, (Chicago: University of
Chicago Press, 1961), Vol. I, p. 277.

Cardinal Newman's Idea of a University, 1852

"The view taken of a University in these Discourses is the following — that it is a place of *teaching* universal *knowledge*. This implies that its object is, on the one hand, intellectual, not moral; and, on the other, that it is the diffusion and extension of knowledge rather than the advancement."

The student at the university "profits by an intellectual tradition, which is independent of particular teachers, which guides him in his choice of subjects, and duly interprets for him those which he chooses. He apprehends the great outlines of knowledge, the principles on which it rests, the scale of its parts, its lights and its shades, its great points and its little, as he otherwise cannot apprehend them. Hence it is that his education is called 'liberal.' A habit of mind is formed which lasts through life, of which the attributes are, freedom, equitableness, calmness, moderation, and wisdom; or what . . . I have ventured to call a philosophical habit. This then I would assign as the special fruit of the education furnished at a University, as contrasted with other places of teaching or modes of teaching. This is the main purpose of a University in its treatment of its students."

John Henry Cardinal Newman, *The Idea of a University* (New York: Longmans, Green & Co. 1927), pp. ix, 101-02. (Original published in 1852).

"Sec. 4. . . . *Provided,* That the moneys so invested or loaned shall constitute a perpetual fund. . . , the interest of which shall be inviolably appropriated, by each State which may take and claim the benefit of this act, to the endowment, support, and maintenance of at least one college where the leading object shall be, without excluding other scientific and classical studies and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life."

Morrill Land-Grant College Act,
7 U.S.C. 304, enacted July 2, 1862.

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Goals of the Founders of Cornell University, 1868

"I hope we have laid the foundation of an institution which shall combine practical with liberal education, which shall fit the youth of our country for the professions, the farms, the mines, the manufactories, for the investigations of science, and for mastering all the practical questions of life with success and honor.

. . . In the course of time we hope to reach such a state of perfection as will enable any one by honest efforts and earnest labor to secure a thorough, practical, scientific or classical education. The individual is better, society is better, and the state is better, for the culture of the citizen; therefore we desire to extend the means for the culture of all.

I trust that we have made the beginning of an institution which shall bring science more directly to the aid of agriculture, and other branches of productive labor. . . .

I desire that this shall prove to be the beginning of an institution, which shall furnish better means for the culture of all men of every calling, of every aim; which shall make men more truthful, more honest, more virtuous, more noble, more manly; which shall give them higher purpose, and more lofty aims, qualifying them to serve their fellow men better, preparing them to serve society better, training them to be more useful in their relations to the state, and to better comprehend their higher and holier relations to their families and their God. It shall be our aim, and our constant effort to make true Christian men, without dwarfing or paring them down to fit the narrow gauge of any sect.

Finally, I trust we have laid the foundation of an University—'an institution where any person can find instruction in any study.'"

Ezra Cornell, Cornell University *Register*,
1869-70, pp. 16-17.

The "Wisconsin Idea" of Service to the State

"The population of Wisconsin alone is two and a quarter millions. The great majority cannot go to Madison, ever, even for ten days. They all contribute to the support of this state university; they all need, and many of them want to learn something. . . . The University of Wisconsin is reaching for these people. It has organized a public correspondence school and the Milwaukee class in shop mathematics is but one of many such 'schools' by means of which the university is mailing instruction out to the homes, farms and shops of the people who cannot go to Madison.

Breaking thus the bounds of Madison, the university is breaking also the bounds of that old definition of a university and setting up a new ideal for education. The University of Wisconsin is offering to teach anybody—anything—anywhere. . . .

What the brain is to a man's hands, feet and eyes, this university is to the people of the state: the instinctive recourse for information, light and guidance. And the state itself, responding to the general feeling of confidence, draws constantly upon the faculty. The legislature summons professors not only to hearings, but to working membership on committees; and governors and heads of departments, not only consult, they appoint them to office. There are forty-one professors in public office; . . .

Most of us think of the state and a university as great institutions, above, beyond and separate from us and our daily lives. In Wisconsin the university is as close to the intelligent farmer as his pig-pen or his tool-house; the university laboratories are part of the alert manufacturer's plant; to the workers the university is drawing nearer than the school around the corner and is as much his as his union is his or his favorite saloon. Creeping into the minds of the children with pure seed, into the debates of youth with pure facts, into the opinions of voters with impersonal, expert knowledge, the state university is coming to be a part of the citizen's own mind, just as the state is becoming a part of his own will. And that's what this whole story means: the University of Wisconsin is a highly conscious lobe of the common community's mind of the state of the people of Wisconsin."

Lincoln Steffens, "Sending a State to College,"
American Magazine, February 1909.

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Objectives of Japanese Education, 1947

"Having established the constitution of Japan, we have shown our resolution to contribute to the peace of the world and the welfare of humanity by building a democratic and cultural state. The realization of this ideal shall rest fundamentally on the power of education.

We shall esteem individual dignity and endeavour to rear people who love truth and peace; while education, aiming at the creation of the rich and general culture of the individual, shall be spread far and wide.

Education shall aim at the full development of personality, striving for the rearing of the people, sound in mind and body, who shall love truth and justice, esteem individual value, respect labour and have a deep sense of peaceful state and society."

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"... There shall be no discrimination in educational opportunity, whether on account of race, creed, sex, social status, economic position or family origin; but all shall be given equal educational opportunity according to their ability."

Fundamental Law of Education, 1947 as excerpted in *Education Reform in Japan*, The Report of the Japanese Education Reform Council, 1950, p. 7.

Mao on the Purposes of Education

"Education must serve proletarian politics and be combined with productive labor. Working people should master intellectual work and intellectuals should integrate themselves with the working people.

Our educational policy must enable everyone who receives an education to develop morally, intellectually, and physically and become a worker with both socialist consciousness and culture.

In all its work the school should aim at transforming the students' ideology."

Sayings of Chairman Mao, in "Sourcebook of Educational Phrases," *Chinese Education*, Volume IX, No. 2, Summer 1976, p. 6.

Poland's Goals for Higher Education

- "Instruction of qualified personnel for all jobs in the economy, culture, and all sectors of social life requiring credentials of higher education;
- Education of scientific manpower for all research and development institutions, and education of academic teachers;
- Research, advancement and dissemination (by publications and application) of sciences and arts;
- Political and civic education, preparation of the students for political activity, voluntary associations, community life, and all other sectors of the societal life;
- Preparation for participants in culture and promotion of the cultural heritage of the nation;
- Education for self-fulfillment;
- Institutions of higher education are supposed to render services for the communities where they are located."

Higher Education Act, 1958, in
Jan Szczepański, *Systems of Higher Education: Poland* (New York; International Council for Educational Development, 1978).

"It would be a short-sighted policy to allow the educational system of a country to be controlled solely by 'consumer needs' for manpower. However, it is part of the duty of an educational system to meet these needs, and in a young country particularly they must be given prominence.

Of course a university ought to be a centre of cultural life for its region, sensitive to regional traditions, giving a willing ear to regional needs, offering a welcome to teachers, artists, musicians, amateur scholars, and all who value the things of the mind. But a university which did no more than serve the demands of its own community would never gain respect from its sister universities abroad; it would not attract staff of high intelligence; its graduates would not be welcome in other centres of learning. There is no room in the academic world for a university which does not set itself international standards.

The academic objects of the University of Nigeria as set out in the University of Nigeria Law . . . are identical in terms with those of University College, Ibadan, being defined as (i) to hold forth to all classes and communities without any distinction whatsoever an encouragement for pursuing a regular and liberal course of education; (ii) to promote research and the advancement of science and learning; (iii) to organize, improve and extend education of a University standard."

Investment in Education, The Report of the Commission on Post-School Certificate and Higher Education in Nigeria (Ashby Commission), Federal Ministry of Education, Lagos, Nigeria, 1960, pp. 7, 31, and 116.

Goals for British Higher Education, 1963

"There are at least four objectives essential to any properly balanced system.

We begin with instruction in skills suitable to play a part in the general division of labour.

But, secondly, while emphasizing that there is no betrayal of values when institutions of higher education teach what will be of some practical use, we must postulate that what is taught should be taught in such a way as to promote the general powers of the mind. The aim should be to produce not mere specialists but rather cultivated men and women.

Thirdly, we must name the advancement of learning...The search for truth is an essential function of institutions of higher education and the process of education is itself most vital when it partakes of the nature of discovery.

Finally, there is a function that is more difficult to describe concisely, but that is none the less fundamental: the transmission of a common culture and common standards of citizenship."

Higher Education, Report of the Committee appointed by the Prime Minister under the Chairmanship of Lord Robbins, 1961-63 (London: Her Majesty's Stationery Office, 1963), pp. 6-7.

Hutchins' Goals of Education

"This essay has defined education as the organized, deliberate attempt to help people to become intelligent. It has insisted that the object of education is not manpower but manhood. It has suggested that education in this sense and with this object may come into its own in the twenty-first century.

If *Homo sapiens* is everywhere the same, if education should be adapted to the idea of humanity, to the whole destiny of man, to the universal good, it follows that education should be everywhere the same, in China and the United States, in Zambia and in the Soviet Union, in Kuwait and in France. An education designed to help people become human would be adapted to the world community and would strengthen it by connecting man with man.

The methods of instruction might differ from culture to culture, and even from individual to individual. The aim would be the same. And, to a considerable, perhaps surprising extent, the content might be the same. The truth cannot be altered by national boundaries or ambitions. The same truths are coming to be equally important to all men everywhere."

Robert Hutchins, *The Learning Society*
(New York: Praeger, 1968), pp. 51, 70, and 71.

New Objectives for French Education, 1968

"There are powerful twin forces—to democratize and to modernize—working on French higher education.

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. . . As a result of the diverse reforms which the French authorities have been introducing over the last ten years in response to the successive challenges they have had to meet, there has gradually taken shape a new set of objectives for education. A relatively narrow conception of the education of the individual seems to be giving place to a view of education as a means of acquainting him with his own potentialities, and helping him to realize them. To this end, the educational system must provide him with a varied and selective training in science and arts, both general and vocational, abstract and concrete, initial and continuing, in a balanced programme. The individual should thus be enabled not only to find his place in society, but to understand, criticize and change that society."

Organisation for Economic Co-operation and Development, *Reviews of National Policies for Education: France* (Paris: OECD, 1971), pp. 68, 50.

Directions for Education in Alberta, 1970–2005

"Education for creativity, environmental education, education in interpersonal relationships, education for sound mental health development, and education for participating in social change processes will have their emphasis upgraded between now and the year 2000.

By the early 1990's it is likely that the average person will spend half of his lifetime engaged in organized educational pursuits. Consequently, it is likely that the demand for post-secondary education will increase sharply over the next three decades, as will the use of leisure time for continuing education."

Harold J. Dyck, with special assistance from George J. Emery, *Social Futures: Alberta, 1970-2005* (Edmonton: Human Resources Research Council of Alberta), pp. 93 and 95.

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Objectives of Japanese Higher Education, 1971

"In the past, the university was primarily expected to contribute to the propagation, criticism, and creation of culture through teaching and research. It was also expected to contribute to national and social development and the welfare of man through cultivating graduates who respected human dignity and who possessed highly qualified intelligence and skill. Today, the demands on higher education are more diverse than ever and, if all these demands are to be satisfied, it will be necessary to devise a new system of higher education with a complex and advanced social structure. . . . It must not be forgotten that the concept of 'academic freedom' is indispensable in order to preserve the university's vital role of freely advising and criticising society. At the same time, the university should try to face historical and social realities and fulfil its obligations to society by cooperating with society in programmes to identify the directions in which research and education should be developed.

Institutions of higher education should be developed that are able to provide education to meet the diversified educational needs of a great number of people, as well as to raise the standards of scientific research, and train teachers and research workers who can transmit and develop this research.

Tomorrow's system of higher education must be designed, in close connection with secondary education, to help people develop professional skills useful in their future careers. At the same time it should encourage them to acquire the abilities and cultural background which they will need to handle the increasingly complex problems of our developing society."

Central Council for Education, *Basic Guidelines for the Reform of Education,* Tokyo, 1972, in "The Reform of Japanese Higher Education," *Minerva,* XI (July 1973), pp. 387-388.

UNESCO Goals for Education, 1972

For a variety of "extremely diverse and powerful reasons—ranging from present labour needs and the need to control reality, to the need for self-control, scientific method and ethical training—training in science and in the scientific spirit appears as one of the major goals of any contemporary educational system."

"Education has the dual power to cultivate and to stifle creativity. Recognition of its complex tasks in this domain is one of the most fruitful intellectual achievements of modern psychopedagogical research. These tasks may be described as preserving each individual's originality and creative ingenuity without giving up the need to place him in real life; transmitting culture without overwhelming him with ready-made models; encouraging him to make use of his gifts, aptitudes and personal forms of expression without cultivating his egotism; paying keen attention to each person's specific traits without overlooking the fact that creation is also a collective activity.

Political and civic aims—opposed to the abuse or dogmatic, narrow use of the political and ideological element in education—are an essential component of the educational enterprise in any democratically oriented society.

Education in economics must become an essential element in everyone's consciousness and culture, beginning at school and continued through all out-of-school media.

One mission of education is to help men see foreigners not as abstractions but as concrete beings, with their own reasons, sufferings and joys, and to discern a common humanity among the various nations.

The physical, intellectual, emotional and ethical integration of the individual into a complete man is a broad definition of the fundamental aim for education."

Edgar Faure, *et al.*, *Learning to be: The world of education today and tomorrow* (Paris: Unesco, 1972), Chapter 6.

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Sweden's Goals for Higher Education

"The Commission groups its views on the objectives of higher education under the headlines of:

- personality development
- welfare development
- democracy
- internationalisation
- social change."

Higher Education, U68, Proposals by the Swedish 1968 Educational Commission, Stockholm, 1973, p. 11.

Carnegie Commission Goals for U.S. Higher Education, 1973

"The main purposes of higher education in the United States today, and for the prospective future, as we see them, are:

- The provision of opportunities for the intellectual, aesthetic, ethical, and skill development of individual students, and the provision of campus environments which can constructively assist students in their more general developmental growth
- The advancement of human capability in society at large
- The enlargement of educational justice for the post-secondary age group
- The transmission and advancement of learning and wisdom
- The critical evaluation of society—through individual thought and persuasion—for the sake of society's self-renewal."

Carnegie Commission on Higher Education, *Purposes and the Performance of Higher Education In the United States* (New York: McGraw-Hill Book Co.), 1973, p. 1.

Framework for Higher Education Goals in Germany, 1976

"In accordance with their responsibilities, higher education establishments are to serve the fostering and development of the arts and sciences by research, teaching and study. They will provide the necessary preparation for a career which demands the application of academic knowledge and academic methods or ability in creative art.

Universities and colleges are to promote international and, in particular, European cooperation and exchange between German and foreign universities and colleges; they are also to take the particular requirements of foreign students into consideration.

Higher education's activities are to include the sponsoring of the rising generation, further training, social welfare of students, collaboration between universities, colleges, and other public institutions; the general public is also to be kept informed.

The Länder and the higher education establishments are explicitly committed to safeguard the constitutional freedom of the arts, sciences, research, teaching and study."

Higher Education Framework Law
(Hochschulrahmengesetz) as quoted and
summarized in ***Bildung und Wissenschaft,***
No. 2-76 (e), pp. 18-19.

OECD's View of Educational Functions, 1977

1. "Education is a decisive factor in the *development of the intellectual, physical, emotional and moral capacities of individuals.*"
2. "Education should be a powerful means of "*socialising individuals*. . . ." Education should "promote understanding and mastery of the various social roles in which the individual has to perform as a citizen, parent, worker, member of a local community. . . ."
3. ". . . Education must be seen as a means of *emancipating the individual.*"
4. Education is "a factor for *innovation and for improving the quality of life.*"
5. ". . . Education will remain an important factor of *production*. . . . As the principal means for individuals to acquire skills and training for employment, education remains associated with deeply felt professional aspirations and therefore with the expectation of economic and social advantages, even if these are becoming more difficult to achieve. . . ."
6. Education operates on economic life in "qualitative terms, by bringing about changes in social relationships in enterprises. . . in manpower qualification structures and in criteria for the utilisation of competencies. This development towards the redeployment of skills and the improvement of the working environment will need to be actively pursued in the future, and it is in this sense that education may be said to have a *penetrating effect on the economy.*"
7. As a factor in the "individual's lifelong allocation of time," education can "*absorb and regulate fluctuations in manpower supply.*"
8. "Educational functions include the *transmission (preservation or reproduction) of the values, behavior and standards of cultural taste peculiar to each society.*"

Education Policies and Trends (Paris: Organisation for Economic Cooperation and Development, 1977), pp. 24-26.

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